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The Flora of Cheshire

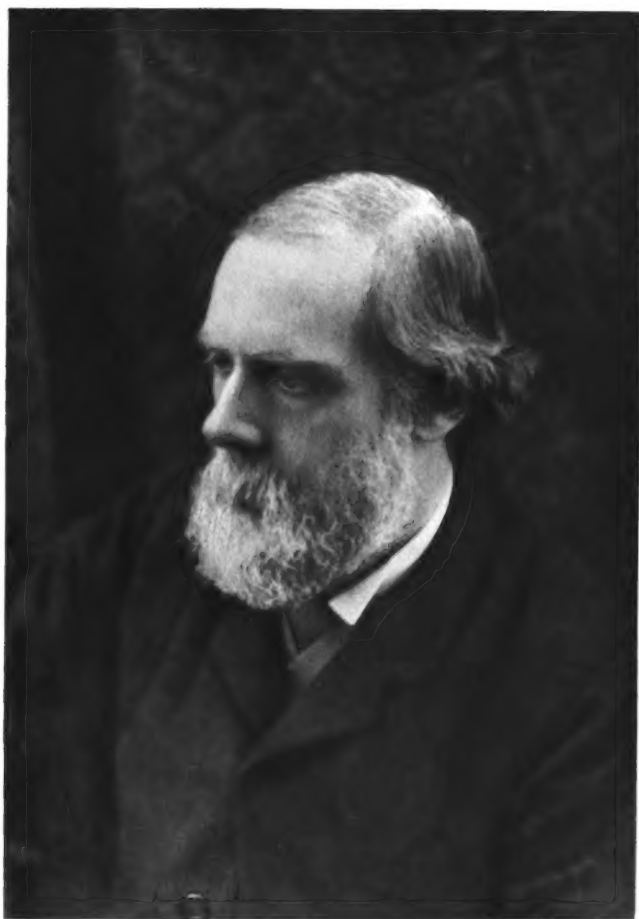
John Byrne Leicester Warren, Spencer
Le Marchant Moore, Mountstuart Elphinstone Grant Duff



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Wm. D. H. Perceval
May 1957.

THE
FLORA OF CHESHIRE



James B. O'Connell, Esq., New York

*John Byrne Leicester Warren . . .
3rd & last Lord de Tabley . . .
died 1895.*

THE
FLORA OF CHESHIRE

BY THE LATE
LORD DE TABLEY
^{1^h}
(HON. J. BYRNE LEICESTER WARREN, M.A.)

EDITED BY
SPENCER MOORE

With a Biographical Notice of the Author

BY
SIR MOUNTSTUART GRANT DUFF

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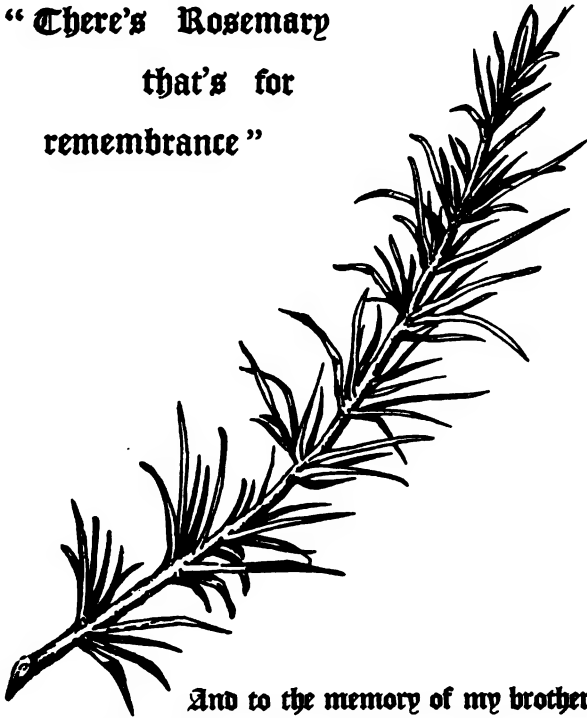
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BIOLOGY

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**"There's Rosemary
that's for
remembrance"**



**And to the memory of my brother
I publish this, his Cheshire Flora :**

Eleanor Leighton

**Tabley House
Buntsford**

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EDITOR'S PREFACE

THE materials for the "Flora of Cheshire" left by Lord de Tabley consist in the main of two MSS., one, the so-called "Mobberley Copy," an earlier and incomplete work, and another, "The Second Writing of the Cheshire Flora," reproduced in the following pages. After the author's death, while sorting her brother's papers, Lady Leighton put together all the materials she could find relating to the Flora, and placed them in my hands to be edited and brought up to date. Lady Leighton was anxious that the work should be published, not only because she had been advised in that sense by several distinguished men of science, but also because a fitting memorial would thus be perpetuated to the memory of one whose name will now live evergreen among the scientific annals of the country, and in connection with the plants he loved so well.

The later of the two MSS. mentioned above was completed about a quarter of a century ago, nowadays a long period in the history of any science, and one which has witnessed many additions to British Botany and many changes in its nomenclature. Of these changes the reader will detect scarcely any sign, since it has been thought advisable to issue the Flora as, with few exceptions, a verbatim reprint from the author's MS. Chief among these exceptions are some recent notices of Cheshire localities, either communicated directly to me, or culled from various publications, especially the *Journal of Botany* and the Reports of the Botanical Exchange Club and the Botanical Locality Record Club: all such additions, it should be noticed, will be found enclosed between square brackets. By some oversight, the Natural Orders from *Boraginæ* to *Plantaginæ*, both inclusive, were omitted from the later MS. In compiling these Orders, the "Mobberley Copy"

has been laid under requisition, as well as certain memoranda found among the author's papers. This portion of the work is necessarily imperfect, the records to hand being fewer in number, and, for the most part, unaccompanied by notes—so interesting a feature in the treatment of the other Orders.

I am indebted to Messrs. George R. M. Murray and James Britten, of the Botanical Department, British Museum, for advice and assistance of various kinds rendered to me in preparing the work for the press. Captain A. H. Wolley Dod most obligingly offered a number of records relating especially to the Broxton Hundred, one of the least known parts of the county. The nomenclature of the genera *Rubus* and *Rosa* has, as far as possible, been brought into line with present-day knowledge by the Rev. W. Moyle Rogers, who promptly acceded to a request made in the interest of the new generation of botanists, unfamiliar with the nomenclature used in this country before British forms had been thoroughly collated with Continental ones.

To the reading public in general, conversant only with Lord de Tabley's thoughtful and carefully finished verse, this revelation of another side to his genius, if indeed it reach it at all, will come as a complete surprise. Botanists will doubtless welcome the appearance of a long-expected addition to the local Floras of Britain; and they will, it is trusted, make every allowance for imperfections necessarily incidental to a book which has not had the advantage of the author's supervision while passing through the press. Yet, though the publication of the "Flora of Cheshire" has so long been delayed, and must now be associated with the melancholy interest accompanying a posthumous work, it was thought that some compensation for these drawbacks might be obtained, if an intimate friend of the author would consent to dispel the mist surrounding a botanist who was, for most of us, unfortunately little more than a name. That this object has been achieved in Sir Mountstuart Grant Duff's charming and kindly biographical notice is beyond all question.

SPENCER MOORE.

BIOGRAPHICAL NOTICE

OF

LORD DE TABLEY

WHEN the last decade of the nineteenth century began, there were in the House of Peers very many better known, but few more interesting members than Lord de Tabley, who had succeeded, about a couple of years before, to the seat in that assembly long held by his father. It would have seemed natural that John Warren, after going through the usual course at Eton and Christchurch, should have entered the Diplomatic Service or the House of Commons, and he advanced to the threshold of both. He accompanied Lord Stratford de Redcliffe on his special mission to Constantinople, and he read as much law as is usually read by young men who desire to qualify themselves for a parliamentary life. Neither the career, however, of a diplomatist nor that of a politician much attracted him, while literature, on the other hand, exercised over his mind a great fascination.

When he first came to London, the *Saturday Review* was still in its early youth, and, under the skilful guidance of the very shrewd, though highly eccentric, John Douglas Cook, kept a sharp look-out for youthful talent as it emerged from the Universities. Maine, Lord Salisbury, Stephen, Harcourt, Bagehot, Goldwin Smith, Charles Bowen, and many more afterwards heard of, were either actually writing for it, or had very recently been doing so, when John Warren first contributed to its columns.

Review-writing, however, amusing as it was, by no means engrossed his attention. He had always been devoted to poetry and anxious to make a name for himself in the highest of all the Arts. As early as 1863 he published a volume of poems called *Præterita*, followed that up the next year by *Eclogues and Monodramas*, and these by *Studies in Verse*. All three met with much recognition from good judges, but his drama of *Philoctetes*, which appeared in 1866, gained even more acceptance, and has been pronounced one of the best plays in the Greek manner which this century, so much given to imitate or emulate the masterpieces of Hellas, has succeeded in producing. He continued to publish poetry well into the seventies, then ceased for many years, but in 1893 and again in 1895 returned to his early love, and published two volumes which have been even more admired than those to which we have already alluded.

There were sixty years ago, and, for all I know, there are still, three kinds of Tokay. The first was made of the juice that flowed from the ripe grapes thrown together; the second was made by the ordinary operations of the wine-press out of grapes from which the husks and all extraneous matter had been carefully removed; while the third was the product of grapes, husks, and stalks all crushed up together. To these three kinds of Tokay correspond three kinds of poetry. The first is that spontaneous, inevitable poetry which, once read, becomes a possession for ever; the second is the product of high intelligence, great cultivation, and infinite art acting on the material supplied by fancy, imagination, and a highly emotional nature; the third is the kind of poetry which men sit down to write deliberately, thereby from time to time achieving something good, but, for the most part, loading our shelves with printed matter which had better be at the bottom of the Atlantic.

Lord de Tabley's poetry seems to me to belong to the second of these classes. You read it; you test almost every line by the severest standards, and you say, "This is excellently good;" but it has not that gift of biting into the memory to which poems belonging to the first class owe their immortality. His work, however, is surely in its way very admirable. Take, for instance, the following:—

AT THE COUNCIL.

I stood to-day in that great square of fountains,
And heard the cannon of St. Angelo
In many echoes towards the Alban mountains
Boom over Tiber's flow.

I saw the nations throng thy burnished spaces,
Cathedral of the universe and Rome;
One purpose held those earnest upturned faces
Under the golden dome.

Tumult of light rolled on that human ocean;
Climax of sound replied in organ-storms,
And shook those altar Titans into motion,
Bernini's windy forms.

They seemed to toss their giant arms appealing
Where Angelo with mighty hand has striven
To paint his angels on an earthly ceiling
Grander than those of heaven.

Mid-air among the columns seemed to hover
Incense in clouds above that living tide.
Whence are these come who tread thy courts, Jehovah,
In raiment deep and dyed?

We are gathered thine elect among all races;
As at God's birth with Magian kings, afar
Thy whisper found us in our desert places,
Where we beheld thy star.

Ninth Piety of Rome, with whom the keys are,
Regent to hold God's house, to feed his flock
Where Cæsar ruled ; and thou, supplanting Cæsar,
Art firm on Peter's rock.

Nicæa's thunders yet are fresh as morning,
Beams in whose light the Church has gone and goes ;
To-day Nicæa peals in Rome her warning,
Pontiff, to curse thy foes.

We come, Armenia, Gaul, Missouri, Britain ;
The chosen of the chosen priests are there :
To all men hath gone out his mandate written
Who fills St. Peter's chair.

Grey heads have waves Atlantic wafted scathless,
Weak feet have toiled o'er Libyan hilla in fear ;
Old Bishops from the regions of the faithless
Have crept on crutches here.

To far Canadian meres of ice-bound silence,
To cities lost in continents of sand,
To shoaling belts around Pacific islands,
The Pontiff raised his hand.

Then with one mind they came, the Bishop leaders,
The outpost Captains of the Church at fight,
From uplands clothed with Lebanonian cedars,
From realms of Arctic night :—

Lo ! we are ready at thy summons, father ;
Loose and we loosen, bind and we will bind :
The conclave princes at thy blast shall gather
As red leaves after wind.

Thunder the doctrine of this last evangel,
Clear as the note of doom its accents sound !
While men regard thine aspect as an angel
In the sun's orb and crowned !

At thy reproof let nations quail in terror,
And tremble at the pealing of thy word ;
For God hath made thy mouth His own, and error
In thy voice is not heard.

Let all be doomed on whom thy curses thunder,
Let none be righteous whom thou dost withstand ;
The priesthood of a word, we kneel in wonder
And kiss thy sacred hand.

Hear, shade of Calvin, ghost of Luther, hearken !
Ye renegades of Northern yesterday ;
Infidel bones, which years of silence darken,
Turn and salute our ray !

Leave vain philosophies, old dreamer Teuton,
Great drowsy fly in webs of logic weak ;
We silenced Galileo, menaced Newton,
And Darwin shall not speak.

Behold a sign, ye sceptic sons of evil !
The dogma ; raising which as Michael brave,
Our Pope, confront their scientific Devil
Over each unclosed grave ;

Till Death and Doubt be thy tame sheep, O pastor,
Pontiff of souls and Vicar of God's choice—
Infallible, in whom the spirit-master
Hath breathed his spirit voice.

“ Explain our faith ! All faithful hear thy mandate ;
Emperors watch in dread our world debate ;
Thy fear is on all peoples ! ” (but the bandit
Who plunders at thy gate).

ROME, November 1869.

AN OCEAN GRAVE.

Mr love lies in the gates of foam,
The last dear wreck of shore ;
The naked sea-marsh binds her home,
The sand her chamber door.

The grey gulls flap the written stones,
The ox-birds chase the tide ;
And near that narrow field of bones
Great ships at anchor ride.

Black piers with crust of dripping green,
One foreland, like a hand,
O'er intervals of grass between
Grey lonely dunes of sand.

A church of silent weathered looks,
A breezy reddish tower,
A yard whose mounded resting nooks
Are tinged with sorrel flower.

In peats the corns are laid

On endless carts of coal ;
And on the sides of giant keels
The shipyard hammers roll.

The world creeps here upon the shout,
And stirs my heart in pain ;
The mist descends and blots it out,
And I am strong again.

Strong and alone, my dove, with thee ;
And though mine eyes be wet,
There's nothing in the world to me
So dear as my regret.

I would not change my sorrow sweet
For others' nuptial hours ;
I love the daisies at thy feet
More than their orange flowers.

My hand alone shall tend thy tomb
From leaf-bud to leaf-fall,
And wreath around each season's bloom
Till autumn ruins all.

Let snowdrops early in the year
Droop o'er her silent breast,
And bid the later cowslip rear
The amber of its crest.

Come hither, linnets tufted-red,
Drift by, O wailing tern ;
Set pure vale-lilies at her head,
At her feet lady-fern.

Grow, samphire, at the tidal brink,
Wave, pansies of the shore,
To whisper how alone I think
Of her for evermore.

Bring blue sea-hollies, thorny, keen,
Long lavender in flower,
Grey wormwood like a hoary queen,
Stanch mullein like a tower.

O sea-wall mounded long and low,
Let iron bounds be thine ;
Nor let the salt wave overflow
That breast I held divine.

Nor float its seaweed to her hair,
Nor dim her eyes with sands ;
No fluted cockle burrow where
Sleep folds her patient hands.

Though thy crest feel the wild sea's breath,
Though tide-weight tear thy root,
Oh, guard the treasure-house where death
Has bound my darling mute.

Though cold her pale lips to reward
With love's own mysteries,
Ah, rob no daisy from her sward,
Rough gale of eastern seas !

Ah, render sere no silken bent
That by her headstone waves,
Let noon and golden summer blent
Pervade these ocean graves.

And ah ! dear heart, in thy still nest,
Resign this earth of woes,
Forget the ardours of the west,
Neglect the morning glows.

Sleep and forget all things but one,
Heard in each wave of sea—
How lonely all the years will run
Until I rest by thee.

The following makes an excellent pendant to a well-known poem of Browning's :—

NUPTIAL SONG.

SIGH, HEART, BREAK NOT.

SIGH, heart, and break not ; rest, lark, and wake not !
Day I hear coming to draw my love away
As mere-waves whisper and clouds grow crisper,
Ah, like a rose he will waken up with day.

In moonlight lonely he is my love only,
I share with none when Luna rides in gray.
As dawn-beams quicken, my rivals thicken,
The light and deed and turmoil of the day.

To watch my sleeper to me is sweeter
Than any waking words my love can say ;
In dream he finds me and closer winds me !
Let him rest by me a little more and stay.

Ah, mine eyes, close not ; and though he knows not,
My lips, on his be tender while you may ;
Ere leaves are shaken, and ringdoves waken,
And infant buds begin to scent new day.

Fair darkness, measure thine hours, as treasure
Shed each one slowly from thine urn, I pray ;
Hoard in and cover each from my lover ;
I cannot lose him yet ; dear night, delay.

Each moment dearer, true-love lie nearer ;
My hair shall blind thee lest thou see the ray ;
My locks encumber thine ears in slumber,
Lest any bird dare give thee note of day.

He rests so calmly, we lie so warmly,
Hand within hand as children after play ;
In shafted amber on roof and chamber
Dawn enters ; my love wakens ; here is day.

THE KNIGHT IN THE WOOD.

THE thing itself was rough and crudely done,
Cut in coarse stone, spitefully placed aside
As merest lumber, where the light was worst
On a back staircase. Overlooked it lay
In a great Roman palace crammed with art.
It had no number in the list of gems,
Weeded away long since, pushed out and banished,
Before insipid Guidos over-sweet
And Dolci's rose sensationalities,
And curly chirping angels spruce as birds.
And yet the motive of this thing, ill-hewn
And hardly seen, *did* touch me. O, indeed,
The skillless hand that carved it had belonged
To a most yearning and bewildered brain :

There was such desolation in the work ;
And through its utter failure the thing spoke
With more of human message, heart to heart,
Than all these faultless, smirking, skin-deep saints,
In artificial troubles picturesque,
And martyred sweetly, not one curl awry !
Listen ! a clumsy knight who rode alone
Upon a stumbling jade in a great wood
Belated. The poor beast with head low bowed
Snuffing the treacherous ground. The rider leant
Forward to sound the marish with his lance.
You saw the place was deadly ; that doomed pair,
The wretched rider and the hide-bound steed,
Feared to advance, feared to return—That's all !

MISREPRESENTATION.

PEACE ! there is nothing more for men to speak ;
A larger wisdom than our lips' decrees.
Of that dumb mouth no longer reason seek,
No censure reaches that eternal peace,
And that immortal ease.

Believe them not that would disturb the end
With earth's invidious comment, idly meant.
Speak and have done thy evil ; for my friend
Is gone beyond all human discontent,
And wisely went.

Say what you will and have your sneer and go.
You see the specks, we only heed the fruit
Of a great life, whose truth—men hate truth so—
No lukewarm age of compromise could suit.
Laugh and be mute !

Nothing would be easier than to find poems which
some would consider better specimens of their author's
power than those which I have cited, and I shall be well
pleased if they induce some readers to turn to the volumes

from which they are selected, and to say, when they have closed them, that a much better selection might have been made.

A convenient opportunity of estimating Lord de Tabley's comparative merit is afforded by the volume in which Mr. Miles has brought together specimens taken from him and from a number of contemporary poets, including Mr. William Morris, Mr. Swinburne, and twelve others. It appears to me that he holds his own extremely well in this honourable company.

But although poetry was through all his life the Sultana queen of his affections, Lord de Tabley had many other loves which he served with much devotion. One of these, curiously unlike that one of which we have been speaking, was Numismatics. This early taste for coins had been greatly stimulated by his visit to the East with Lord Stratford. He collected, as we shall see presently, at Constantinople and elsewhere. His numismatic tastes often carried him into strange corners of Constantinople, and I daresay he had not unfrequently addressed to him the same warning which was given to the late Lord Arthur Russell when he was a young man: "Be very cautious where you go after nightfall; there are so many Christians about." Warned or unwarned, however, he persevered in his wanderings, and his brethren of the Embassy, combining truth and poetry, invented quite a charming little romance. One of his coin-selling friends, they averred, had a daughter who was at once fair and kind. His disappearances accordingly became the most natural thing in the world. A generation afterwards, when I was living at the foot of Mount Carmel, I came, in a curious roundabout way, on the fact that the coin-collector in question actually had a daughter, and was able to send to my friend some particulars concerning her life in a remote corner of Asiatic Turkey, with strange wild creatures to bear

her company. He was not a little amused, and replied as follows:—

It is cheering to learn that there was a Miss ——. Her father had a number of animal pets, and they did not improve the general tidiness of his apartment, but he did not get to hyenas and panthers, but confined himself to reasonable animals.

About the time Lord de Tabley published his first volume of poetry he gave to the numismatic world a very careful little treatise on Greek Federal coinage, and he retained his love for the subject to the end of his life.

By the middle of the sixties he had also obtained a very considerable reputation amongst botanists, and I was frequently privileged to accompany him and to learn from him in rambles round London, some of which took us pretty far afield. It was on one of these, in May 1868, that he took me to see the patriarch of topographical botanists, Mr. H. C. Watson, who showed us, close to his house, *Myosurus minimus*, which neither of us had, as it chanced, previously met with.

There could not be a more delightful companion on a botanical excursion. He had the eyes of a lynx, and his minute critical knowledge was always at his command, nor did I ever on such an excursion see a trace of the rather morbid tendency which led him to live all too much alone.

He entirely eschewed in botanising the horrible and heathenish practice of rooting up rare plants with a view to exchanging them. He had, indeed, a sort of personal affection for his vegetable friends, and I verily believe that he would have published his "Flora of Cheshire" in his lifetime, if he had not scrupled to lay bare the secret of the whereabouts of some rarities to the destructive demons to whose sins I allude. That such people should be deterred from their ravages by any expression of opinion on the part of Lord de Tabley or any one else would be too much to hope for, but the mention of his

feelings on the subject may have weight with some who, without having any mercenary views, occasionally root up rare plants without thinking what mischief they are doing.

In 1880 he astonished his friends by producing a work upon bookplates. The same power of minute observation which made him accurate in the distinction of brambles or of the coins of the Achaean League, naturally gave him a large knowledge of this curious and out-of-the-way subject when he once seriously turned his attention to it; and, so far at least as England is concerned, he will be thought by many to have deserved something in the nature of the prize which Xerxes is said to have offered for the invention of a new pleasure. His own bookplate, drawn in 1879 by Mr. W. B. Scott, is engraved at the end of his "Poems, Dramatic and Lyrical," published in 1893. It brings in with much felicity his botanical tastes, represented by a branch of Bramble lying across a sheet taken from his herbarium, with a Dock upon it. Hard by lies a poem in manuscript, while in the background are books, a coin-cabinet supported by a caryatid, and what was, I hope and think, intended by the artist for the wreath of laurel which De Tabley himself would have been the last to claim.

Being anxious in middle life to raise some money, for I know not what object, he tried whether he could produce marketable articles in the shape of novels, and succeeded in producing three which at least fulfilled the purpose for which they were intended.

Many men are interested in a variety of subjects, but what was peculiar to Lord de Tabley was that, although he was so extremely versatile, he was never satisfied without attaining very considerable proficiency in anything he took up. Whether this was altogether to his advantage may be doubted. He himself certainly thought that it was not.

Although he only once came forward as a candidate for the House of Commons, he was all his life a strong Liberal. For that matter, almost all clever men of his age who had enjoyed a good education were strong Liberals, unless from family connection or other external cause they found their way into the opposite camp. The reason for this was not far to seek. The excesses of the French Revolution stayed for more than thirty years the natural progress of improvement in this country, and when at length the long Tory domination came to an end, there was a prodigious arrear of useful legislation and beneficent change to be got through before reasonable men could say that our polity was on a level with the conclusions to which the bulk of thoughtful persons had long ago come. Lord de Tabley's Liberalism was, however, not deformed by any of the crotchets, fads, or follies which have since 1880 brought so much reproach upon the honoured name of Liberal. It was simply a desire gradually to embody in our statute-book and administration those views which enlightened men had come to have no doubt about. These were his views when he entered upon active life, and these were his views when he left it. After the political cataclysm of 1885-86 had destroyed the old Liberal party he became a Liberal Unionist, and no one was more shocked than he at the mistaken policy which led to that great calamity.

In the case of men of action, almost the least satisfactory method of giving an idea of their lives is to publish their letters; but it is quite otherwise when you are dealing with a man who had next to no external life, whose life was all in his books and in his intercourse with his friends, which was carried on chiefly by letter. When you wish to convey an impression of what such a man was—not what he did—I do not know that one can do better than to turn to his letters. I have selected accordingly from those which I possess, written during

the last few years of his life, a number of extracts which give, I think, a very adequate notion of what he was; for in them are represented nearly every one of his tastes and most of his peculiarities, all enveloped in an atmosphere of affection to the person addressed, which was in the highest degree characteristic. I suppose most of the people to whom he wrote must have been wise enough to keep his letters; and to some correspondents he must have written upon subjects which he rarely treated in communicating with me. Most of his letters to me owed their form to the fact that I was in the habit of sending to him every two or three months the privately printed sheets of my diary for that period. His answers accordingly fell very much into the shape of comments upon facts mentioned by me in my latest communications to him.

In the year 1887 he was also engaged in reading through a long series of my early diaries, extracts from which have been since published.

Writing on May 15, 1887, he remarks:—

I am leaving with this the last batch of your journal from 1858–1862. It has been full of interest to me, and has recalled so many people and things which I had well-nigh forgotten.

The account of your first meeting with Reay is very curious, also the beginning of your acquaintance with Strangford. I had clean forgotten Spottiswoode's dinner at the Conservative, but your narrative brought it back to me. All about Prince Frederick¹ at this time is pleasant to read. Henry Murray's evenings at the Albany have been revived in your pages. I don't think I ever drank gin and water either before or since those entertainments. Old Kmety, too, I used to see a good deal of at Strangford's, who was never tired of contrasting that modest genuine patriot with Eber. The poorest and thinnest of notables whom I ever saw and spoke to was Saffi, ex-triumvir of Rome; but I always heard he was merely

¹ Prince Frederick of Schleswig-Holstein.

adjoined as a sort of Lepidus to say ditto to the others. Sunderland is a person who has always interested me, and I wish I knew more about him. There was some personal row with or snub of Tennyson which brought upon him the revenge of the "character," which after all comes to very little. The "æsthete" is *ex hypothesi* utterly heartless, and must be so, to be worth his salt in that trade. Did you ever hear Browning's account of Campbell the poet? If you have not, and get an opportunity, put him upon the subject. It bears out all said by Bulwer Lytton (p. 21) and more. He says Campbell used to hang about Murray's shop in Albemarle Street on the chance of getting some one who dropped in to talk to, and that he was regarded by Murray's understrappers as a harmless but intolerable bore, and that when the great Murray asked his clerks who was below, the reply was, "Only old Mr. Campbell." Jackson, late head of Queen's, a Cumbrian, told me when a boy a somewhat similar story of Wordsworth, who lived in his parish at Grasmere, and whom he knew intimately. He once asked the town-fool his opinion of the Bard, who replied "that Wordsworth could not be *right*, because he continually mumbled to himself as he walked along; yet you would not believe it," said the idiot; "if you stopped Mr. Wordsworth and spoke to him, he could answer you as rationally as I myself could." Thank you very much for a great treat in reading this journal. I have had a formal letter of thanks from the Kew Director for the *Trichonema*, which it is now the fashion to call *Romulea*, though why Romulus should be its godfather I know not.

Again on May 23rd he writes:—

I return with much gratitude the instalment of your diary from 1863 to 1867—to me a most interesting period. I have found so much in it that I hardly know where to begin, but I may say that your wife's *Dives and Lazarus* strikes me as very remarkable.

What an amusing bit that is of Houghton asleep at the Positivist service as comfortably as if he were in church. I remember these Bouverie Street *conciones* well. I went two or three times—once with Henry Cowper. I remember

Congreve chose eleven o'clock on Sundays, in direct opposition to the other establishment, and that the seedy public-house upper room jarred very much with the smart Sunday dresses of the ladies.

And so you have actually taken a walk with Wirtgen! Well, I envy you. He is one of the best brambles in Europe, and his name has long been a household word to me. Alas! the Rubi people are fading fast—Bloxam, and now poor Areschoug have joined the majority. The last was a charming Swede, professor at Lund, and he came over here for a month or so, years back. His ardour was such that, seeing a new and promising bramble bush, he would plunge into it for specimens like the Guards charging at Waterloo, and emerge eventually streaming with gore from face and hands. He had undertaken the light job of investigating *Rubus* in Europe, and was after the original and primordial *typus*, which he suspected was *Rubus Leesii*, and was to be the ancestor of all the cousinhood of blackberries and raspberries in existence. I fear he has left this monography unfinished. Life is short and brambles are interminable.

I have found the remark of Bunbury's father, that the great Napoleon did not look like a gentleman, very instructive, and it explains many of the sudden brutalities in his career, which seem so inconsistent in a man of such genius, and I may add of such classical features. All his portraits (except one) are in uniform and imperial robes; but in that one he certainly does bear out the elder Bunbury's impression. I have seen some seven or eight of the Bonaparte family, and they all looked handsome peasants and nothing else. Napoleon had nothing of the family type, which the rest keep quite as strongly as if they were Hebrews.

What an excellent story is that of the man who required five shillings *more* for voting for a candidate who did *not* believe in the Trinity!

Your account of the Rhine-bank autumn vegetation is charming. And yet I fancy the common weed (as it is in S.E. England) is *Sinapis muralis* and not *tenuifolia*. I have several times confounded the two. The *S. muralis* is conquering England gradually. In Kent, Sussex, Hants it is master of the situation. Devon it is just reaching. Cheshire it has just

reached. How happy is botanical nomenclature! As *Inula Britannica* is so called because it *don't* occur in Britain, so is *S. muralis* so called because it *never* grows on a wall. The wall plant is *S. tenuifolia*.

It was very kind of you giving me an opportunity of meeting Dyer so pleasantly, and we talked over old days again and re-found our earliest specimens. I do hope that the Zodiacal authorities may soon see the reasonableness of beginning some kind of summer. The present state of things is a fraud upon the field-botanist and the market-gardener. With many thanks for the journal, which I return enclosed with this letter.

The following letter belongs to June 4, 1887:—

I have finished another batch of your journal with unabated interest, and I return it herewith enclosed with my best thanks. First of all, I must disclose a gigantic ignorance, and ask you who wrote *Phantastes*? I remember Phantasmion or some such name by Sara Coleridge. I am very pleased to find out where the lines you quote come from. I knew them and liked them amazingly, and indeed in one or two dark hours I have found them most consoling; but I had no notion whose they were or whence they came.

Your botanical entries are charming—the miles of *Narcissus poeticus* after leaving Val d'Aure, your list of plants between Athens and the Piræus. When I was there I went out one morning by myself with the determination to find a coin, which I did, after a search of an hour and a half, near the Temple of Jupiter Olympius. It was a Byzantine copper of John Zimisces, and is the only piece of old money I ever found in my life. I wish it had been Greek. When quite a boy I dug up one of the Philips of Spain in our garden at Naples, date circa 1680. I have both still.

I am glad you have preserved a record of our expedition to Fennell Wood, near Loudwater, after *Orchis militaris*, and I had almost forgotten, till I read it again, your annexing the herbarium of the worthy old "Bramble Bloxam." You speak most kindly of me in connection with your numismatic beginnings, and I was very interested by your memorandum on poor

old "Wigan." But I *think* that Wigan, one of the most generous of men, followed De Salis's¹ lead in giving during his life the cream of his Roman gold to the British Museum as a gift. I think it was merely the duplicates which you saw. But one forgets, and I may be wrong. Poole will know. Wigan used to give after dinner the most marvellous and priceless old port wine of an incredible age. How very instructive is a good comparison, such as Disraeli's comparing George Smythe with Bolingbroke! It has made me understand G. S. ever so much better than I did. His faithless kind of brilliancy is St. John all over. Certainly, he resembled his brother² not at all. One of the men whom I always regret not having known better was Henry Smith. I did know him a little and he was very kind to me, doing me, though only an acquaintance, several good turns. I wish also that I had known Clough, as I might have done very easily.

The next letter is of June 19, 1887:—

And so you have been out with the willowy Andersson and the younger Fries, botanical giants of whom I have only heard on paper. Poor old Newbould used to speak of the elder Fries much as one speaks of St. Paul. The story of the *Bromus tectorum* and of the *Artemisia campestris* found on Odin's Mound are both charming reminiscences. Fancy Wordsworth's phantom of delight producing anything so undelightful as ———. It does not do to look poetry too closely in the face. Best keep at a distance and enjoy the general effect, as of Constantinople from the Golden Horn.

I knew her who, according to Byron, walked in beauty like the night, and very deaf indeed she was, and she gave me a stuffed barbolt, an English fish I had a great wish to see, which was very much to her credit. But somehow she spoilt the lyric for me, for all that. I may as well tell you that in our small line there occurs pasted in books a very poor scaly little ticket, which represents badly enough the *Linnæa*, and is supposed to be the bookplate of Linnæus. You use the word

¹ John Francis, Count de Salis: died 1870.

² Percy Smythe, the last Lord Strangford.

"Cognizance" in speaking of the plant as on the famous tea-service, of which I never heard, and yet this makes the book-plate more likely to be genuine. The extreme poorness and badness of the thing is in its favour.

The phrase about *Bromus tectorum* refers to the fact that I had mentioned to him that that plant got its name not because it was particularly given to growing on roofs, but because it grew on a particular roof on which a room in Linnæus' house looked down.

"Phantastes," about which my correspondent asks, was written by George Macdonald, and the following are the lines to which he alludes:—

Warnings forgotten when needed most,
He clasped to his bosom the radiant ghost.

She wailed aloud, and faded and sank;
With upturned white face, cold and blank.

In his arms lay the corse of the maiden pale,
And she came no more to Sir Aglovaile.

Only a voice when winds were wild
Sobbed and wailed like a chidden child.

Alas! how easily things go wrong!
A sigh too much, or a kiss too long;
And there follows a mist and a weeping rain,
And life is never the same again.

Alas! how hardly things go right!
'Tis hard to watch in a summer night;
For the sigh will come, and the kiss will stay,
And the summer night is a winter day.

The following belongs to October 30th, and was written shortly after his succession to the peerage:—

I received your most kind letter of the 22nd, written from Dresden, in the midst of my complications, and the generous wishes you there expressed cheered me not a little at a time when I felt peculiarly low. It makes one think better of one-

self to be so fortunate in friends as I am. God bless you for your kind encouragement, which I sorely need.

I wonder if any flowers are yet left in Turkey and Syria. I remember the *Hypericum calycinum* on the sides of the Bosphorus a little south of Therapia. I suppose it is there now.

Perhaps a few coin-dealers may remember me. Try and ascertain where ——— last flashed on human view. Subhi Pacha is collecting angels of the angels, for such surely is their currency. Constantinople is good ground for Sassanians, if you wish to add to your store; but if you want coins, pause at Smyrna on your way to Syria. It is the best coin town in the world after London and Paris. Write to me soon.

The next letter I shall cite is dated January 9, 1888.

I am harder worked than a clerk; most of the beggars, half the clergymen, and all the lunatics in creation have determined to write to me. I have been elected president of several societies, which exist for no earthly use except to provide a secretary with his salary, so have had to set up one of my own, as my eyes are very middling. You are in happier climes and happier circumstances. I envy you much for having found the *Inula Crithmoides*.¹ I have always been on the look-out for it on our southern coasts, but it has never come to hand. Once in my salad days, when I was green in judgment, I thought I had got it, but it proved to be only a miserable *Aster*, without vitality enough to produce its ray-florets. It is very tantalising visiting Cheshire at this barren time of year; nothing is up, and the place is truly dreary.

It is very sad indeed about Henry Cowper's death. I had seen but little of him of late, but at college he was quite one of my nearest friends. Men of his type of character are daily becoming more scarce, and are hourly becoming less appreciated. Modesty is not the virtue of the present enthroned democracy. I hear that he never got over his sister's²

¹ I had found it in great abundance at Athlitt, near Mount Carmel.

² Lady Florence Herbert.

death, which makes his end the more tragical. I have read your journal with my usual pleasure, and am sending it on to Mr. Webster, as desired. How interesting you have made your south-east run across Europe! The biographical bits about the great diplomatist are very graphic.¹ It is odd that you have been reading "Dorothy Forster." I too have read it lately, and liked it, as I do any tales with strong local colouring. I have a bookplate of Lord Derwentwater; but the truth must be told, it is the father of the hero of the tale, not the hero himself. Poor Franks is laid up with a very bad finger; he washed some old Venetian glass, and my theory is, that among it there was a Borgia goblet on which the poison still lurked fresh after the lapse of 300 years; anyhow, his finger has swollen the size of a small soda-water bottle, and it will be a long affair. Dyer has been very kind in providing me with a new gardener. He tries to impress upon his garden-men that botany is not entirely rubbish; and as he understands stoves, his gardeners partly believe him; but he says it is quite useless for a botanist like myself, who does not understand stoves, to try and persuade the unregenerate country-gardener to this effect. As you do not leave Constantinople till the 12th, I think I am safe in writing there.

CHAPTER I.

How small the world is! In early life I advertised for *Carex stricta*, which every one talked about but no one had seen. Reply came, from the infinite, by the pen of one Mathews of Birmingham, who sent it.

CHAPTER II.

Years pass on. Ten years ago Mathews writes to reclaim his specimen.

CHAPTER III.

Years pass on. My father dies, and it is necessary to get a valuer for some salt-mines. One Mathews is suggested. He proves the hero of *Carex stricta* !!! Tableau and curtain.

¹ Baron de Hübner.

The next letter from which I shall make some extracts was written at Bournemouth on December 15, 1889:—

I now return your diary. Your visits to Townley, Wallington, Knowsley, Merivale, and Gawthorpe all interest me much. I like such interiors, and in these cases I knew enough about the people to feel a wish to know more.

As regards the botany of your Autumn, there is no kind of doubt that *Myrrhis* is a native in the North of England, where you saw it,¹ and I believe it is generally diffused. It reaches the river Mersey in Cheshire, but I think we can hardly consider it truly native there. I have found it also in Wiltshire, but there it is a mere casual. I am surprised that you, who have seen so many more rarities than I have, should have not come before in England upon the broad-leaved *Campanula*. All round the place that I was brought up at, in Cheshire, it is very generally diffused by the side of shady streams. But I certainly have never seen it since in any other part of England.

Your walk with Lord Derby, and the topics you discussed, were very interesting. I don't know him, but he strikes me as the most sensible politician of the day. Parnell's saying about Gladstone² is, I fear, only too true.

You are very lucky to have seen a long-tailed tit³ so far south and in such an unwild neighbourhood. I never saw the animal in a state of nature, though all the other tits can be seen in Cheshire with a little trouble, the great titmouse being rather the rarest. I ought, however, to say that the crested titmouse is absent, so that I said "all" wrongly. My only piece of ornithology this year has been a dunlin, which I picked up on the shore quite fresh, and have had stuffed—not an uncommon bird, but I know the sea-birds comparatively little.

I have been reading Wallace, that is, his new book on Darwinism, which I advise you to read, if you have not done

¹ On the Tees.

² The phrase alluded to was: "It all depends on Gladstone; if he lives for three years, we shall get all we want; if he lives for five years, we shall get more than we want."

³ This passage refers to the curious fact that four long-tailed tits had flown into the conservatory at York House, Twickenham, where we then lived, had spent the night there, and then disappeared.

so already. It certainly supplements Darwin all round, and has greatly increased my faith and explained some of my difficulties. He appeals to me more than Darwin, as he is more botanical than his master. I am now at Arthur Young's travels in France, which are extremely interesting, and his way of keeping a journal is not at all unlike yours. But he is entirely without literature, except in his special branch, which weights him heavily: even with this drawback the book is a wonderful piece of practical observation.

I see that you attended poor John Ball's funeral, and I wanted to tell you how grieved I was to read of his death. I make very few new friends now, and I think his was quite the pleasantest addition to my very small circle which I have made of late years. I owe this addition to you. Certainly, the charming courtesy of his manner is getting rarer and rarer every day. I never knew a man more modest about his really great knowledge. He dined with me in London in August, at that dinner I failed in getting you to come to, and sat between Trimen of the Ceylon and Townsend of the Hampshire Flora. He told me then he had been unwell, and he certainly looked so, and that he was just going abroad to shake it off. I told him that if I was unwell, going abroad, and indeed travel of any kind, always made me much worse. He said, I think, that it was not so with him. I have not heard any particulars of his last illness. I suppose he did go abroad, and probably returned worse for it.

Then on Saturday comes the news of poor Browning's end at Venice, and this has grieved me much also; my friendship with him dating quite thirty years back, and he is connected with a great many events of my past, very uneventful history. I saw him last in Kensington Gardens one evening, and we had a walk of about an hour together, and he insisted on my going home with him to see his new house in De Vere Gardens. We talked, oddly enough, about ghost-stories and kindred subjects, and he told me a very strange one, in which Horne, an Australian poet, had been concerned. It came of my telling him a story of my own, as we happened to pass the spot at which the story occurred to me. We had been talking about Beddoes, whose literary executor I knew Browning was, and at the extraordinary craving which Beddoes had to dive into

the supernatural, and so the transition was easy. Before that, we had been upon politics, and he said one thing which struck me very much upon the worn-out subject of Ireland. Pointing to a house, he said, "Suppose I wished to paint that house brown, another man comes and says that he means to paint it white, and that's a fair controversy between us; but I do object to a third man who comes in and says, 'As you can't agree, I mean to burn the house down.'" I think that gives you Irish matters in a nutshell. He told me about his son, and his good luck in securing this large palace at Venice, whither he seems to have gone to die. I shall miss him very much in many ways. Although I only saw him now and then, it was always a great treat to do so. He gave me a literary curiosity of his own. It was the first proofs of his book, which he called "Turf and Towers," in which were printed the actual names of the personages of the story, which was taken from real life, but just before the publication the publisher was advised that this might be actionable, so the names were all changed into imaginary ones.

We may now pass to December 27, 1890. On that date he wrote from Bournemouth :—

The two pamphlets have arrived rather slowly, as even the letter-post goes wrong at this time, while the subsidiary posts seem wholly to lose their heads.

In your lectures I have found several old friends whom I had missed for years, and made at least one new discovery. I will take this first: it is the poem by Sir Edmund Head, of whom I never read one line yet in poetry. It is peculiarly interesting to me, as being the only attempt I have ever seen to reproduce in English verse the Roman classical spirit. I have made some feeble attempts myself to reproduce the Greek classical spirit, as everybody else has done, and done it much better. And I remember once it came into my head to try a Roman piece, but I seemed to succeed very badly, and I tore it up. This poem is exactly what I should have tried to produce if I had had better luck and more perseverance. And therefore it has been a real delight to me to see done, and done well, what I vainly tried to do.

The old friend whom I was most glad to see again is the most excellent ode by Dr. Alexander, Bishop of Derry, which I have been trying for years without success to recover in a printed form. I heard this myself recited by its author for the first time in the theatre at Oxford, on the occasion of the installation of the late Lord Derby as Chancellor of the University. The writer was then entirely unknown, a country clergyman, I believe, in some small parsonage. I was then seventeen, at the height of my receptive age for admiring such pieces, and I was too intensely delighted with it, and in fact quite carried off my feet. The undergraduates, indeed, as a body, gave the ode a most enthusiastic reception; and I have remembered stanzas of it ever since from only then once hearing them. If it has ever been republished I have failed to see it. The elder generation in the theatre did not receive it quite so cordially.

I look upon this as the best ode for public recitation which I have ever come across, but it is distinctly rhetorical rather than poetical—that is to say, it requires an audience and a public occasion. After that, the worst you can say of it is that it is a little too Tennysonian.

Did you ever read a translation of one of the scenes of Victor Hugo's *Legend of the Ages*, by the same writer? I saw it quoted somewhere, and I consider it extremely fine, finer indeed to me, and more striking than the original, which it sent me at once to read, though, of course, the comparison is unfair to Victor Hugo, for as an Englishman I miss much of the beauty of the French. The scene is the soul of Canute wandering forth after death across interminable fields of snow, and as he goes all the evil deeds which he has ever done descend one by one in flakes of blood upon the snows before him. But here again a tiresome reminiscence of Tennyson's poem of the "Death of Arthur" spoils the entire appreciation of the piece.

The other old friend whom I have found is that exquisite paraphrase of Callimachus by Cory, the Ionica man, which is simply perfect.

The poem by Sir Edmund Head, to which reference is made, is a wonderful translation of the *Elegy of Proper-*

tius, surely one of the finest things which Rome has bequeathed to us.

“*Desine Paule meum lachrimis urgere sepulchrum.*”

Nothing is rarer than a good translation of poetry into poetry, but this seems to me a triumphant success, though it has not yet found its way into anthologies. The noble poem by the Archbishop of Armagh, of which my correspondent goes on to speak, is to be found in the volume published by him under the title of “*St. Augustine’s Holiday.*” Part of it is occupied, as was inevitable, by a laudation of the Lord Derby of that day, the father of the present bearer of that title. The verses devoted to that subject are worthy of it, or, in other words, of no value; but when the poet begins to speak of the University of Oxford and of the death of the Duke of Wellington, he rises into the very first rank of the poets of the Victorian Age.

In a later letter De Tabley returned to the subject, and mentioned that the reciter of the ode did not get hold of his audience till he came to the verse—

“Time passed—my groves were full of warlike stirs,
The student’s heart was with the merry spears,
Or keeping measure to the clanking spurs
Of Rupert’s Cavaliers.”

After that all was one whirlwind of applause, and no wonder.

The Archbishop seems to receive a double portion of inspiration whenever he speaks of Oxford. It would be hard to beat the opening verses of another of his poems in “*St. Augustine’s Holiday,*” called “*The New Atlantis.*”

I do not know whether I received more letters from De Tabley in 1891 than in the two or three previous years, but more have rewarded my search. On February 7th in that year he wrote from Bournemouth:—

Thank you also for the record of your breakfasts at Queen’s

Gate Gardens. This I shall keep, unless I hear to the contrary, as you have kindly written my name on the back. It will be valuable to me in several side-ways.

When I first breakfasted with you, which seems to have been in 1866, certainly there were fields in front of your dining-room. Indeed, while contributing to the "Flora of Middlesex," I made several good records on what must have been within view of that same dining-room window. Indeed, the only time I ever found a decently grown plant of *Silene noctiflora* was on a manure-heap in the field but one opposite you, and not more than three hundred yards from the dining-room. I also got the Archangel Nettle in the same place in the same field. Perhaps these records may be worth reviving as an illustration of the state of things then.

I had seen you and known you by sight for two or three years before I made your acquaintance. I think the first time was at a lecture of Maine's in one of the Temple Halls. I was very anxious then to write in the *Saturday*,¹ which seemed to me, as a boy, the summit of earthly grandeur, and I felt interested in every one who was reputed to be on the staff. That directed my mind, among others, to you. Our actual introduction took place near where that Indian fountain now stands at the north-east corner of Hyde Park.

The opening of the next letter, dated at Bournemouth in February, refers to a proposal then afoot for his becoming a member of the very delightful dining club called "The Literary Society," then presided over by Lord Coleridge. I need not say that he was elected, but, alas! his wretched health, which got worse and worse from this time, made him a very infrequent attendant.

BOURNEMOUTH,
Sunday, February 15, 1891.

I am coming up in company with a very good man, Court-hope, who has certainly more claims than I have to be a

¹ In a letter written early in 1887 he remarked, "I remember I was reading *Ethics* with Alexander Grant when he showed me the first number of the *Saturday Review*."

member. And I know not whether that may not somewhat diminish my chances. However, let us hope for the best.

I knew Courthope fairly well in my Onslow Square days, and he came to Onslow Square once or twice. I forget how our acquaintance began, but I think I reviewed one of his earlier books. We had a friendly controversy, of which I have got the letters somewhere. He was all for Pope and Dryden, and I was, of course, all for the present-century poets. He has since, I believe, distinguished himself in the Civil Service. I fear I shall not have got back to my usual health in time enough to see the Essex Oxlips. I can walk about now, but no great distance; but I hope to be back soon, and then we will have a talk on this and other matters.

I have been reading again Matthew Arnold, exclusively in his *prose* works, and it has given me a great delight to do so. I should not take him as my political leader; but as an adviser and a corrective he is extremely valuable. I cannot adopt his views, but he teaches me better than any one else how to revise my own views, and especially shows me the proper spirit and the proper method in which and by which I ought to make such revisions. He is also very valuable as showing the connecting points between Politics, Literature, and Ethics.

He does not seem to me to have any great admiration for Tennyson; and he says right out in one place that Tennyson's simplicity is a sham and a sophisticated simplicity. Tennyson in his highest classical flights, such as Tithonus and Ulysses, or in his best lyrics, such as Maud, appeals to me more, both in youth and in middle age, than any other modern poet. As to the Arthurian poems, I care very little about them.

We may now turn to a letter of June 25th:—

I am sending back the last instalment of diary, with very many thanks. As usual it has been to me a charming bit of reading, telling me what people of eminence and intelligence who are my contemporaries are about. Much of this I should miss if it were not for your kindness.

With regard to Lowe's criticism on Walter Scott, I believe I have heard Palgrave maintain the same thesis, that "St. Ronan's Well" is one of the finest of Scott's novels. I remember this estimate astonished me as much as Lowe's did

you. I think, when pressed, Palgrave said that some of the tragic passages about the heroine were the reason for his decision, but as far as I am concerned, much of the book seems to me quite at Scott's lowest level.

I am interested to hear about Goschen's grandfather, who published for the literary giants in Germany. Here my little subject comes in, as I happen to have bought his bookplate in a collection which I got at Frankfort, and I have always suspected that its owner might be forefather or fore-cousin of the present Chancellor of the Exchequer.

It is truly wonderful to hear that Poodle Byng's tributary animal has been relegated to the region of myth by the great father of dictionaries. All this makes me feel very much out of date, for I am old enough to have known Poodle Byng about as well as a young man can know an old one, to have dined with him often at his lodgings, and to have been proposed by him at a London club.

The explanation of the remark about Poodle Byng is this:—I had mentioned to my correspondent that a man of great distinction had rather surprised some of his older friends by suddenly asking them at a London dinner-party if any of them had ever heard of Poodle Byng, and I had further told him that Sir William Smith had treated the perfectly historic animal, which gave Mr. Byng his sobriquet, as a product of the mythopœic faculty in man!

The club in question was Brooks's, and what happened was this: Poodle Byng was President of the Skating Club, and De Tabley, when he first came to London, asked him to propose him as a member. Byng got confused, and proposed his young friend at Brooks's, not a little to the horror of his father, who very naturally did not wish a mere youth to take so very definite a political step without consulting him.

De Tabley, by the way, never cared much for field sports, over which most Englishmen in his station waste such a preposterous amount of time; but he had in his

earlier days a passion for skating, & any means to come and things on the ice; for instance, cutting ice on the 28th, as you and an apple and leaf, achievements, at that time I shall tainly have appeared very wonderful to two other just yet. skaters, Goethe and Klopstock.

The next letter I shall quote is from Ryde, Isle of Wight, under date of September 28, 1891:—

That is a good story about Beauchamp and the pills. Did you ever know him intimately? I missed him much more than I should ever in college days have thought it likely. He was older than I was, and already a Fellow of All Souls when I came up. I don't suppose either we agreed on any one subject; and yet, during the last six years of his life, I don't know any one of my college days who was kinder to me—so many men with whom I was then extremely intimate having slipped away from me now.

I was very much interested to read the account of your pilgrimage to the cemetery at Boury, and your account of the position of the graves and the epitaphs is most interesting.

I find plenty to amuse myself with among the commoner and hardier plants which live on to the edge of winter. I also study root-leaves and the dried states of *carex* and grasses. Then there are birds, butterflies, and insects in plenty. The last I observed much as a schoolboy does, knowing but little scientifically about them.

The story alluded to at the commencement of this letter was one, probably without any foundation in fact, to the effect that the last Lord Beauchamp, who was *très grand seigneur*, had been good-naturedly showing some American strangers about his park when one of them remarked, "Guess you made your pile out of your pills."

On October 3rd he wrote again from Ryde:—

I have had a letter from Marshall, the Surrey botanist, offering kindly to send me some of the smaller sea-wrack grass in fruit. He seems to have found it in Poole Harbour. I searched for it there, but I could only find leaves. Perhaps this extraordinary season has tempted the thing to fruit from sheer perversity.

you. I think, when pre-triumph which you have achieved to tragic passages about to flower in England, which has never decision, but as far as. It is almost equal to the achievement to me quite at Seat of Glastonbury, where you have just been. When he got to his journey's end he had the happy thought of planting his walking-stick, which happened to be a thorn, and the tree therefrom, or its descendants, have the custom of flowering every year on Christmas Eve at twelve o'clock—as may be proved by credible witnesses, and any one who likes to sit up for the purpose.

The orchid alluded to was *Habenaria longicalcarata*, common on the Nilgiri Hills, which I had succeeded in flowering at York House. I had told him that a young lady, an excellent artist, had been sent by the authorities at Kew to interview this distinguished vegetable, and to take her portrait for the *Botanical Magazine*.

The next letter I shall quote is from Ryde, under date of October 18, 1891:—

I went out yesterday to take a botanical walk, or rather to study the root-leaves of perennial plants, for there is little else to do at present. But I was rewarded by getting *Centunculus*, that Benjamin of British plants, in excellent fruit and condition. I had not seen it fresh for many years.

I have also been trying to master Hanbury's very learned, but simply heart-breaking, catalogue. What a terrible thing it is to find the familiar parsnip of one's youth now crammed into an entirely new coat and buttons and labelled as "*Peucedanum*." It is also a shock to find that *Chlora* has become Miss *Blackstonia*: surely quite unnecessary!

As for the rearrangement of *Festuca*, I simply give it up, and seem to be not merely out of England, but in another division of the world. Our unfortunate friend *Festuca pratensis* has disappeared into the *fourth* variety under another larger name.

On November 23rd he wrote again from Ryde:—

Thank you for a most interesting instalment of your diary, which I return herewith.

I fear, alas! I cannot manage by any means to come and meet Hanbury and his wife at York House on the 28th, as you suggest. I am still out of sorts, and besides, at that time I shall be very busy. I fear I cannot get back to civilisation just yet. I want much to talk to Hanbury about many matters, and it would have been a charming opportunity of doing so.

I am interested in the account of how you have now arranged your dining-room with portraits of friends and pictures of places specially connected with your life and family. It is a nice idea and I had for many years vaguely proposed something of the kind—that is, whenever I had a dining-room so to decorate. My own notion was to hang round the best likenesses I could get of the dozen people or so who had most influenced me mentally and morally in my passage through life—people whom I am distinctly the better for having known, *e.g.* H. C. Watson, W. B. Scott, Lavradio, Robert Curzon, yourself, Sidney Herbert, De Salis, Strangford, and so wider, as the Germans say. As to places, oddly enough I don't specially care to hang up any. Possibly our home at Naples, if I could get it done, when I was very young. It stood high up on the Vomero.

I am much struck with Mrs. Shipley's excellent summary of Newman and the Tractarian movement. Every line of all I agree with. Who is she?

I read Finlay's mediæval works at one time very attentively, but have now forgotten most of them. He is a very able, but a very dull writer. I have also corresponded with him on coin subjects; but I never happened to have seen his estimate of Byron, which you do right to extract, as it is a distinct help to understanding that very difficult personality.

I ought to send you a *retractatio* on the subject of Bentham, whom I have hitherto not done justice to. I have (as an exercise) been writing an account of *Carex* (to clear my own views). It is a mere compilation, but it has improved my grip on the genus 50 per cent. In doing it I had to see what *all* the British authors said; so *for the first time* I seriously read Bentham, and I must say that his introduction is excellent, and his descriptions of species, &c., which are not split, are admirable. I disagree with him as much as ever, and I cannot understand his complete blindness to smaller differences, but he

you. I think, when precise, and his descriptions call up the tragic passages about better than Babington's. He tells you decision, but as far as to me quite at Seaford.

~~When he got~~ "of Cheshire" will probably find its way into the hands of few save botanical readers, but, in case it falls in the way of any who are so unfortunate as not to merit that description, I may explain that Mr. Bentham and Professor Babington were the leaders of two different schools of English botanists, of which the first diminished as much as possible, and the second increased as much as possible, the number of species. Many plants which Professor Babington considered to belong to separate species, Mr. Bentham treated as varieties of the same species. The two schools were colloquially known as the "lumpers" and the "splitters." To such an extent did Mr. Bentham carry his lumping, that the politician will learn with surprise that *Poa Parnelli* and *Poa Balfourii* are both included by him under *Poa nemoralis*!

On December 19th he writes from Bournemouth:—

It is kind of you to have sent me the speech which you made at Guildford. It explains the position of an Unionist better and more temperately than anything I have yet read. Things look, to me, very gloomy ahead. You are really managing to get through a number of public functions for this wretched time of year.

I am amusing myself in my walks, now that botany is so completely over, by collecting shells on the coasts about here, as I have done on a previous year in winter. It just gives an interest to a walk. But the whole conditions of collecting shells are very different to collecting flowers. One only gets from fourteen to twenty-four species in a walk which would get one from eighty to a hundred and twenty plant species, and one finds, day after day, the dozen most prevalent species over and over again. Still it is interesting, for one gets two or three new things each walk. Altogether in England I have found personally some fifty-three species of shells. That is very poor, but

still it is a beginning. The critical shells are very difficult; and though I pretty well know when I find anything new, I am often a long time hesitating between two or three names. I remember in your Syrian Journal that you used to find shells.

The following from Bournemouth, is dated January 4, 1892 :—

I write to send you my best good wishes for the New Year, and also to thank you (which I ought to have done long ago) for your last letter of the 22nd, and for the reduced copy of your Indian bookplate enclosed in it.

I agree with you in thinking that the reduction is extremely successful, and I think this size suits the subject and the kind of detail admirably. I hope you will use it extensively.

I am still going on mildly with my shells. I have taken the plunge, and am passing now into the scientific stage. That is to say, I have bought the standard work on British shells, in five volumes, and very expensive. The plates are good, and the technical descriptions most carefully done; but there is a lot of discursive twaddle and attempted humour which is superfluous, and which annoys one. I have also got into relations with a man who deals in these articles. It is rather absurd at my age taking up a new subject, over-burdened as I am with subjects already; but I never could do things in an amateur and surface manner, whereby I have wasted much time.

I was sorry to see that the young lady had fallen ill who is doing the pictures for "Hanbury's Hawkweeds." The book is very nicely done, but it is so big that one does not know where to put it. I bought a few days since the skin of a grey phalarope which had been shot near here. I have never met with the bird living or dead before. Most winters one sees harlequin ducks in Poole Harbour, which I have never seen alive elsewhere, though I have seen the bird stuffed often enough.

This letter was very soon succeeded by another, under date of January 10th :—

I must write a line from these depths of winter to thank you for yours of the 5th, and the particulars you have very

kindly supplied about our two societies for breakfast and dinner respectively.

You have got an excellent *main idea* upon which to mould your coming address to the Historical people. How true is all you say! I never read or heard of in English any Manual of General History, and I must get you to give me the name of the American one which you can recommend.

Did I tell you that I had lately re-read Johnny Green's most admirable "Short History"? and, after many years, it strikes me as even better than before. I am ashamed to say I first bought it for some excellent pictures of antiquities with which it is illustrated. I knew Green very well through Freeman; and, oddly enough, on one occasion I was able to offer him a small living, which belonged to a friend of mine, who had no candidate suitable in his own acquaintance. Of course Green did not want it, as his health was even then too uncertain for parish work.

Did you ever see my first bookplate which Scott did? A mystical affair of coins, brambles, and books in a jumble, and an allegoric female, representing, I suppose, Science, as a caryatid, at the corner of a curious piece of upholstery? I think you must have seen it.

The next I shall quote was written also from Bournemouth on October 23rd:—

Many thanks for remembering to send me the Scotch newspaper with your political summary. I am extremely glad that you have begun doing these reviews of events again. There is no kind of reason why they should only be done by members of Parliament; indeed, if a man has the requisite knowledge, it is much better he should not be in the House, for his hands are then in nowise tied by his constituents, and you get his full and perfectly unbiassed mind.

I hope, however, that you will reprint your last summary in a separate form, and in good type, like your journal. All your contemporaries are now beginning to be glad when they get clear type, myself among the number. I envy you much having been present at Tennyson's funeral, which I hear on all sides was a most impressive function. I hope you will write a

description of how it struck yourself, and could do wonderful diary is printed. I got an invitation, by his initials, J. L. W., London never forwarded it in time. I ^{which} would certainly have missed it. Have you heard anything of other famous be the new Laureate? To me Swinburne is, as far as we produced goes, a head and shoulders before all other living competitors. But I suppose other things must be thought about besides the power of writing poetry. Supposing Swinburne won't take it, or great people object to him, it would be far best to appoint nobody.

He was still at Bournemouth on January 20, 1893, and wrote on that date:—

I learn that you have been to Paignton. That is a place I am very fond of, and I used to be constantly over there from Torquay. It was invented, as perhaps you know, from nothing at all, by a certain Prince Peter of Oldenburg, who married a Princess of Baden. He composed music mildly, and she devoted herself to her children.

We saw a good deal of them at Naples when we were young. She had known my mother as a girl.

I am interested to hear your account of the dates and styles of the different rooms at York House. I am very fond of old domestic decoration, and the next time I am with you I must ask you to take me round. The gallery at the top of the house is the usual arrangement of Stuart times. I know it at Parham, Lord Zouche's, and also at my brother-in-law's, in Shropshire. It takes a long time for even a small subject to reach the dense general public. The Guide to bookplates was published in 1880, and the subject has remained pretty well dormant thirteen years. Now, without the smallest notice, it has become popular, and three books are appearing in London alone at once. Two are just out, and another coming on their heels. One of these you have seen, and your letter refers to. Mr. Egerton-Castle has written a very pleasant popular account of the subject in England, and, of course, it will do good. But he is rather a clever literary man, who has taken it up on occasion, and I doubt if he has really the divine lunacy which constitutes a true citizenship in the subject. One must be

born a poet, a roaster of game, and a bookplate collector; education may do much, but the original impulse must be there to second it.

On February 14th he wrote:—

I have been working at birds again lately. Did I tell you? I have got a most excellent little handbook on European birds—quite small, by which one could probably make out anything one found abroad. If I had only known of it when I travelled, what a useful addition it would have been to my portmanteau. But I had no idea that the birds of Europe could be got into such a small space. I used to see birds abroad, and never even tried to make out what they were. Do you remember those large gulls or terns which beat up and down the Bosphorus all day, never resting or alighting? The Turks say they are the souls of unbelievers, who lead this kind of Wandering Jew existence in feathers. I wish I knew the proper scientific name of these birds.

In August he was at Ryde, and wrote on the 13th August:—

I am sending back the diary enclosed. I am glad to read of the last Breakfast Club meetings, and what was done at them. I knew old Forbes, minister at Dresden (mentioned) fairly well. I always thought Horace Mann must have resembled him. The story of the three dogs¹ is charming. I read one "long" at Dresden, and knew then only Forbes, his nephew Granard, and the Duke of Parma.

I have seen a few plants, but mainly old friends. There is a field of medick near here; one seldom sees it grown now. Cheshire is this year invaded by a flight of quails. They are in nearly every field. The bird had been unknown in the county hitherto.

I got a devil-fish here and a few others. I am trying to learn the English fishes. But as my knowledge of fish increased, I gave up whitebait, as one finds such horrors in it, if you have

¹ The story alluded to was to the effect that this excellent old gentleman was in the habit of going out, accompanied by a black Spitz when the court was in mourning, by a grey Spitz when the court was in half-mourning, and by a white Spitz when things were in their normal condition.

only the requisite knowledge. So that ignorance is bliss here, as I used to be very fond of whitebait, and I can never touch it again.

The following was from Poole, and was dated November 10, 1893:—

I have had no news of you for some time, so I just send a line to ask how you are getting on, and to hope that I shall soon have the pleasure of seeing another instalment of diary, which reflects so vividly your daily and weekly proceedings.

I spent most of the autumn in the Isle of Wight, but was working more this year at Zoology than at Botany, as I have completely exhausted everything accessible in the island.

Can you refer me to any books which explain by their modern equivalents and by their modern scientific names the different flowers mentioned by Virgil and Theocritus? The dictionaries are really worse than useless, and even Conington's prose version is very wild, as where, for instance, he translates *Vaccinia* by Hyacintha.

The next from which I shall cite a passage was written from Ryde on August 4, 1894:—

I got your interesting letter from Athens about a week ago, but I did not answer it thither as you were evidently on the edge of your departure home, and I saw in a paper a day or two back that you and the Frenchman who represented the French bondholders had actually started. I send this, therefore, to await you on your return to York House.

It is really very good of you to return with a piece of Dittany in your portmanteau. You remember our experiments with your cat and the root of Valerian—and this is evidently a case for repeating something of the kind. The ingredients are simple, and I must merely ask you to borrow a goat, and a bow and arrow from any of your neighbours who have a turn for archery. In the cause of science you must not allow the inconvenience of the animal to weigh with you for a moment. Take the goat into the centre of your lawn and

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riddle it with arrows, some of which must stick like S. Sebastian. Then show the goat the Dittany, and if he is a classically-minded goat, and worthy of the Cretan ancestor who nursed Jupiter, he will, or ought to, rub his wounded portions against the Dittany, and by so doing extract the arrows. If he does, you will have covered yourself and family with eternal honour.

I came on to the Isle of Wight a few days ago. The country is nice enough, but there is nothing but rain. I was very sorry to see that we have lost Pater. I knew him, but not particularly well, and wanted to see more of him; but his books, I may say, I have read extensively.

I had a long letter from Howorth, who has been presiding over archæologists at Shrewsbury, during part of which time my sister put him up. They are all astonished at his erudition; and when, on Sunday, he floored a parson with one hand at Bible criticism, their astonishment, and, I may add, the parson's, knew no bounds. He is equally strong on cavalry movements, Mongols, City companies, poetry, numismatics, and, in fact, any other trifles you like to put him on.

The following, under date of August 24th, continues the subject of the Dittany:—

So many thanks for the charming specimen of dried Dittany, which I shall value very highly. It is a queer thing, and I never saw anything like it. More like one of the garden mints, and yet not very like that. There is certainly an uncanny look about this vegetable.

Thanks also for the pamphlet on the types of "Greek Coins," by M. Svoronos, to pronounce whose name one ought to have a cold in the head. It is a point which interests me rather; and I see engraved, at first glance, several types the signification of which has always puzzled me.

Four days later he wrote, still from Ryde:—

Thanks for your kind present of the very interesting "Essays and Hints for Beginners in Natural History"¹ which

¹ The book referred to was a Study of "Natural History, for the Use of Beginners," edited by Lady Isabel Margesson.

you have kindly sent me, and to which you have written a preface. I am pleased to see my little anecdote transferred to its pages as a warning to the Philistines of the younger generation.¹ You are also quite right in specially commending Matthew Arnold among English poets for botanical accuracy. I certainly trust him, but very few of the rest; and Keats, for example, who is a great man otherwise, is a mere Cockney as to country matters. Even Tennyson now and then goes wrong. Yes, thank you, I know Prior's work well, and have long had it. Indeed, oddly enough, I remember talking it over with Tennyson himself, who thought highly of it. Prior is miles beyond A. B. in good sense and thoroughness, but still he leaves plenty to do.

My chief work at present is on plants and flowers, which are rather European than English, but which occur mentioned by well-known classical authors, Latin, Greek, or English, and, of course, Prior helps me little here. As for dictionaries, they never by any chance direct except in a wrong direction. You, who have travelled botanically so much longer than I have, must know a lot of points that are bothering me, but I will only give you one. I think I remember, in one of your past journals sent me, a description of the Egyptian lotus, and, if I am right, and you can easily turn to it again, I should like to read it again. For instance, is the lotus at present a common plant in Egypt? Is it and does it occupy the same kind of stations? A book I have got says it is rare now, and doesn't grow in the Nile itself, but merely in side-ditches, drains, and channels which run into it. Then, as to colour, there seems to be a bluish flush over the ivory white of the lotus, just as there is a faintly rosy flush over occasional specimens of our own white water-lily, if gathered at the right time. The leafage, I suppose, of the two is much the same. But it runs in my head that there is a second kind of lotus in Egypt, and I think this is the one you mention, for I don't think I am likely to have got the idea elsewhere.

¹ The anecdote was this: He had been doing his best to get some elementary notions of botany into the head of a young barbarian of the usual type. It listened courteously for some time, but at length observed, "And now, don't you think we might stop and talk a little like gentlemen?"

I told him in reply—I trust it was sound doctrine—that the true Lotus, *Nelumbium speciosum*, so common in India, and mentioned by Herodotus as an Egyptian plant, was now exceedingly rare. When I was first in Egypt, some five-and-twenty years ago, I could only hear of one station for it. I further said that the *Nymphæa lotus*, considered by the German botanist at Cairo, from whom I obtained my information, to be the same as the *Nymphæa thermalis*, which grows in the hot springs of Mehadia, in Hungary, was rare, but not so rare in Egypt, and that the water-lily which one sees everywhere in the Delta, white with a flush of blue over it, was *Nymphæa cœrulea*.

Early in 1895, writing to me from Poole, he remarked:—

I am glad you have read Gosse's Memoir of Pater. He writes such things extremely well—half-reviews, half-biographies. I think I told you that it was only of late years I got a passion for Pater's books. I tried them some eight or ten years ago first, and at that time entirely broke down with them. As a rule, if there is any good in them, the books impress one more as one gets on in life; but one has disappointments.

It will be observed that nearly all these letters are dated from the Isle of Wight, from Bournemouth, or from Poole. The writer came latterly very little to London, and stayed but a short time there when he did come. There was a moment in the early nineties when he showed a disposition to return to the world, a disposition which I tried to foster by endeavouring to bring about his election as a member of the Breakfast Club and of the Literary Society. Both these endeavours succeeded, and he met at both the sort of men whom he most liked to meet, but he was seldom able to attend. My well-meant efforts were opposed by two powerful demons—gout and influenza, which, joining hands, soon carried him far away

from the natural surroundings of so accomplished a man. He rarely went near his noble place in Cheshire, although it was always kept ready for his occupation at any moment. I suppose he dreaded that the details of business, which wearied him very much even when he lived at a distance, would tease him far more if he lived in the midst of his estate, and yet I think arrangements might have been made which would have enabled him to lead most days of the week a perfectly secluded life in his own park. There lies in its centre a wide lake, surrounded by which is an island bearing a house still in substantial repair which belonged in the later Middle Age to his Leicester ancestors. The island is approached by a bridge, on which there is a locked gate, which need never have been opened save on Sundays and holidays. On Sundays and holidays I say, for there is a private chapel on the island. No doubt, however, he had considered all this, and had good reasons for adopting the mode of life which he did adopt.

He had none of the liking for business for its own sake which is so common amongst Englishmen who possess landed property; but he must, I think, have been in some respects a good man of business.

In February he was much occupied with the mischances which the terrible winter of that year had brought to his latest volume of poems, a continuation of the dramatic and lyrical series published in 1893. The book on its way from the printers in Edinburgh had got ice-bound in the Thames, but at length that trouble was over, and he began to rejoice in the return of spring, even in the neighbourhood of Poole, which he described as a land of heath and moor, sandhills and mudbanks, where March went out, not as a lamb, but as a lion.

All through the summer and autumn of 1895 his health was very indifferent, his two old enemies getting ever more and more hold over him, but no one understood,

till the end was very near, how thoroughly his constitution had been undermined.

In the month of November, when returning to me the sheets of my diary for September and October, he gave a bad account of himself, but nothing to lead one to expect any immediate crisis. He did not know at all how ill he was, and when his sister, Lady Leighton, arrived, he was already unconscious. The end came on the 22nd of November at Ryde, but he was laid to rest in the Church of St. Oswald's at Little Peover (pronounced Peever). His recluse life had thinned his friends, and putting aside a few of his nearest relations, Sir Henry Longley, who had been with him at Christchurch, and I were their only representatives. The tenantry, however, and their families mustered in great numbers in the beautiful little church, built almost entirely of dark oak, and the service was extremely impressive.

Lady Leighton was anxious that, as he had been christened with water brought from the Jordan, so he should be buried in earth brought from the Holy Land; and accordingly, when the words "dust to dust" were uttered, we all threw some of it into the grave.

A lyre in white flowers with strings of violets, one of which was broken, lay upon the coffin.

MOUNTSTUART GRANT DUFF.

PRELIMINARY EXPLANATIONS

WE begin by stating, when necessary, the order and genus of each particular plant, then its species. With very few exceptions the arrangement of the Seventh Edition of the London Catalogue is adhered to throughout this Flora.¹ After the Latin specific name, and its authority, comes the English specific name, followed by the English generic name. It has been thought advisable to adhere to the binomial system even in English, after the example of Mr. Bentham's "Handbook." To be consistent in this course necessitates a good deal of mere translation, especially in the generic appellations; and considerable awkwardness in some of the compound names is unavoidable. Still, the advantages of such a plan seem to outweigh its drawbacks, serious though they confessedly are, inasmuch as English names cannot, it is conceived, be dispensed with wholly in any county Flora. Many will use such a work who are not qualified to attempt Latin pronunciation, and who would greatly prefer to employ English names were such only supplied to them. On these grounds, a regular system of English nomenclature is here attempted. In the names Mr. Bentham's "Handbook" has been largely followed; Mr. Robson's Series of Botanical Labels have been found useful in some cases; and in other instances a new English name has been coined for the occasion, chiefly where those hitherto used seemed unsuitable or obviously misleading.

Next succeeds an enumeration of the physical surroundings of the plant, the kind of places it grows in, the situations which it affects. A good deal of care has been expended on this subject, one in which many Floras are content merely to copy their predecessors. Hence, these descriptions of where the plant is found are unusually lengthy, but it is better to be too long than so vague as such formulas generally are. As well say nothing as inform readers merely that a species grows in "damp places"—an often-recurrent description in similar works. Next, it is most advisable in this, as in all botanical departments, to speak, when practicable, always at first-hand, and from one's own personal observation. Last, the reader is reminded, that the situations which the special plant occupies in *Cheshire* are intended most emphatically, not the places of its growth in other counties, or in

¹ [The out-of-date classification of the vascular Cryptogams and of the *Characeæ* adopted in the work referred to has been discarded in favour of one more in accordance with modern notions.—ED.]

Britain generally. This distinction is obvious and most important. Take for example the first of British species, *Clematis Vitalba*, in Cheshire a mere garden-escape, in a southern county occupying a variety of native situations. Care has also been taken to use such descriptive words as are introduced definitely, to employ such terms as pond, pit, plash, &c., consistently; to keep wood, thicket, clough, dell, coppice, &c., distinct; and to use similar physical objects with one uniform connotation throughout this Flora.

Then comes the duration of the plant: next its time of flowering; that is, of course, flowering in Cheshire, for this county is ten or twelve days later than Middlesex. First-hand exactitude is here attempted, in so far as the rather fluctuating subject-matter admits. Months are sometimes split to get nearer the truth, e.g. late April, May, and early June. Or a divided month is coupled with an entire one, as late May and June. In *Carex* the flowering-time is that when the stigmas are ready to receive, and do receive, fertilisation.

The greatest ascertained altitude of the species within the bounds of the county is then given. This is a subject full of interest, and though the montane element in the Cheshire Flora is rather insignificant, yet probably no better county exists whereby to illustrate the diffusion of mid-agrarian species. It seems highly probable that, besides the hilly districts of Eastern Cheshire, the greater portion of its plain belongs, florally considered, to Mr. Watson's mid-agrarian zone. We have only some twenty species which are super-agrarian, chiefly confined to Hilly Cheshire; while the typically infer-agrarian plants will, with few exceptions, only appear as common on or near the Cheshire coast.

It is believed that this county is a debatable ground on which the Northern and Southern Floras in Britain meet. And Cheshire is so nearly on the mesial line between these two vegetations, that it is fairly true to say that the Flora of Littoral and West Cheshire is Southern, that the Flora of Hilly and East Cheshire and the plain of Mid-Cheshire is Northern. To approach the sea with us is equivalent in its effect on the vegetation to descending one degree of latitude.

It is in the plain of Cheshire that so many common plants of South England begin to thin out and appear as rarities, or only appear at all as littoral plants farther to the west: consequently, when the species which is thinning out is agrestal in character, it is by no means an easy question in our county to decide on its claims to nativity. Take, for example, *Anthemis Cotula*,¹ in Mid-Chester: is this a mere seed-brought plant like *Crepis setosa*, or is it a southerly abundant species thinning out and on its last legs of inland nativity? *Alopecurus agrestis*, that weed-pest of Surrey fields, was originally chosen as an example of the above; for this is clearly a casual in Cheshire, and distinctly "not native" there for all purposes of this Flora. But *Crepis setosa* is a better selection. Both are aliens for our purpose. It is no concern of ours

¹ This doubt is chiefly felt in the grade of *colonists*.

if the *Crepis* is an alien to Britain, the *Alopecurus* a native in most of England, and probably spontaneous a few miles beyond our comital boundaries themselves.

The nativity, non-nativity, or intermediate grade of citizenship which the species occupies in the county, and once more emphatically in the county only, is the next consideration. The terms and categories of the "Cybele" are usually employed. At times, for phyto-geographical reasons just explained, a species appears native in some of our comital districts, usually the littoral ones, and alien in others, usually inland ones. But I know few or no instances of the converse. Many plants of inland Cheshire *disappear* coastward, but, except as mere ballast introduction, none of these change on the shore neighbourhood into littoral aliens. *Cicuta* and *Andromeda* fail on reaching our maritime province, Wirral. *Trifolium striatum*, not by any means a littoral plant in the rest of England, is native merely near our coast, but reappears as an alien in the interior.

The frequency, rarity, or intermediate character of the species as diffused in Cheshire is next given. This is often variable in different portions of the county. Some fifty species are with us only known as littoral or sub-littoral plants, which in South England are not littoral plants in anywise. In a county which embraces ground so diverse, as the mountain lands above Staley, the plain from Beeston to Bowdon, the sandhills of Hoylake, it would be strange indeed if great inequalities of distribution did not coexist in diverse portions of our limits. It may consequently be found necessary in this Flora to describe one and the same species as "rare," "local," and "frequent" in respective comital districts. *Ballota* and *Rubus discolor* are instances in point.

The distribution note will in many cases be supplemented by the addition of one of three words—HILLS, PLAIN, SHORE, signifying respectively that the species in question is confined, or mainly so, in its occurrence to Hilly or Montane Cheshire;—to the Plain of Cheshire;—to the Littoral portions of Cheshire.

"SHORE," or Littoral Cheshire, comprises the whole maritime district (4) of Wirral, with such northern portions of district (3) Eddisbury and (2) Bucklow as are exposed to tidal influence. A definite boundary of an obvious character to every field-botanist is adopted to divide "shore" Cheshire from "plain," viz., the Birkenhead, Lancashire, and Cheshire Junction Railway, from where it crosses the Mersey into Cheshire soil a little to the south of Warrington, following this past Frodsham to Chester; and after Chester taking the Chester and Holyhead Railway for a short distance till it runs into Flint.

"THE HILLS" comprise the whole of that narrow heel of the extreme N.E. of the county which runs up between Lancashire and Derbyshire till it touches Yorkshire; adding to this a hilly strip of an eastern border which fringes Derby and Stafford as far as Mow Cop. The boundary which metes montane from plain Cheshire is that part of the Mersey which flows between Stockport and Marple. Above Marple, the Macclesfield Canal is selected to

continue southwards the boundary of montane from plain Cheshire. This canal runs alongside the Marple and Macclesfield Railway to the latter town, after which it skirts the North Staffordshire Railway past Congleton, until the canal runs into Staffordshire about two miles south of Mow Cop Station.

This strip will be found to mete off from the levels of the inner county all the continuously hilly portions of East Cheshire.

"THE PLAIN" of Cheshire comprises all the remainder of the county which lies within and between the strips called "shore" and "hills" respectively.

To express compendiously the comital distribution of some unequally diffused species, "the Plain" will be further subdivided into three portions, comprising each two of our primary districts with their hill or shore extremities shorn off.

"North Plain" will comprise the districts of (2) Bucklow and (1) Macclesfield, excepting such portions of West Bucklow as are taken off for "shore;" and such parts of East and North Macclesfield as are referred to "hills."

"Mid-Plain" will embrace (3) Eddisbury and (7) Northwich, with analogous exceptions at the north of the former and at the south of the latter.

"South Plain" includes (7) Nantwich in its integrity, inasmuch as neither "hill" nor "shore" ground belongs to it;—and (5) Broxton, a trifling portion of which is wanted for "shore."

Reverting to Wirral, we see it is a three-sided peninsula; on two sides occur tidal rivers, on the third side fairly open sea. Several species are confined to one side only, so it will be convenient to designate these succinctly as "*Dee Coast*," "*Channel Coast*," and "*Mersey Coast*" respectively; meaning, of course, the west, north, and east coasts of Wirral. The term "*coast*" will be employed of set purpose to avoid confusion with the previously defined district of "shore," and the last word will be employed as including and embracing the region of coast, but extending also far beyond it to include the whole Mersey bank subject to tidal influence, from Stanlow Point (where "coast" and Wirral ceases), past Frodsham Score, Weston Point, Runcorn, &c., to where the Railway bridge crosses the Mersey out of Aspley Meadows, just south of the town of Warrington. Thus the distribution of *Ruppia*, which grows both in Wirral proper and is reported from Norton Marsh, would be succinctly given as "shore."

A "personal record" in a given botanical district means that the editor of this Flora has personally seen the particular species or variety growing in that district. A second-hand record signifies that some one else has seen the plant there, but not the editor himself. I have given great prominence in my headings to this most vital distinction in the nature of botanical evidence, following therein the oral suggestions and published works of Mr. Watson.¹

¹ [In the MS. of this work the author prefixes to the notice of every species the Hundred or Hundreds from which he has personal and second-hand records respectively. This plan has been adhered to in dealing with the commoner species, where the giving of localities has been considered unnecessary by the

It seems most important that a reader should be able in any future Flora to take in at a glance to what extent under each species the editor speaks of his own knowledge, and to what degree he relies on the reports of coadjutors or old printed material. In a word, how far he is individually responsible to the public that such and such a plant does really grow spontaneously in a special county. I have seen many botanical records of species-occurrence in works of considerable authority, so slackly and vaguely worded, that it was impossible to decide whether the writer spoke of his own experience or of hearsay. In old days, when Jones wrote or told him that *Stellaria nemorum* grew on Bollin banks, he inquired no further, but entered the fact thus—

Stellaria nemorum, L. 2, Bollin banks; Jones.

Now he always further interrogates Jones, "Have you seen it there yourself?" As often as not Jones replies, "No, but Smith has." A very different matter.

The method adopted in this Flora of indicating the varying degrees of evidence for a record is shown in the following table:—

4. Parkgate. Seen growing there by the author.
4. Parkgate; *Webb, sp.* Seen there by Webb, who sends a specimen direct to the author.
4. Parkgate; *Webb*. Seen there by Webb, who communicates the fact direct to the author, but does not send a specimen.
4. Parkgate; (*Webb*), *Flo. Liv.* The author reads in the *Flora of Liverpool* a printed record of Webb having seen the plant at Parkgate, but no communication on the species in that spot has been made by Webb to the author.
4. Parkgate; *Fisher fide Webb*. Webb tells the author that Fisher has found the plant in this given spot, Fisher not having communicated the fact personally to the author, nor having printed any record of his, Fisher's, discovery.

author. In all other cases separate mention of the Hundreds has been rendered superfluous by placing all the personal records after the second-hand ones, which latter are at once indicated, as such, to the reader by the observer's name appended to each record.—ED.]

THE COMITAL DISTRICTS

WE now come to the seven botanical districts into which, for the purposes of this Flora, it has been deemed advisable to divide the county. These coincide with the seven Hundreds of Cheshire. It is always best, in the absence of any strong reasons to the contrary, to retain old and easily ascertained divisions in preference to creating new ones. And in a country like ours the river-basin system would be clearly out of place. Such rivers as we possess do not appreciably affect the adjacent vegetation. The canal system does so affect it, and certain, say half-a-dozen, species do give indications of following the canal arteries of the county; but it would be an idea both novel and absurd to mete out a Flora by these artificial water-roads. It is, therefore, intended to prefix a county map to this work, in which these seven Hundreds will appear differently coloured. They are, for the sake of brevity, under each respective species, indicated hereafter each by its appropriate number, as:—

- | | |
|--------------------------|-----------------------|
| 1. Macclesfield Hundred. | 5. Broxton Hundred. |
| 2. Bucklow Hundred. | 6. Nantwich Hundred. |
| 3. Eddisbury Hundred. | 7. Northwich Hundred. |
| 4. Wirral Hundred. | |

The least known of these districts are 5 (Broxton) and 6 (Nantwich), and 7 (Northwich) in its southern portion.

MACCLESFIELD HUNDRED.

On the north the Hundred of Macclesfield is separated from Lancashire by the Mersey and the Tame, with their tributary streamlets, and from Yorkshire by a mountainous line of rocky moors called Feather-bed Moss. On the east the Etherow, the Goyt, and a line of moorish hills divide it from Derbyshire; and on the south the Dane separates it first from Derbyshire, and then entering the Palatinate near Bosley, continues to divide Macclesfield from Northwich Hundred, so far as the two Somersfords. From this last point an irregular imaginary line is drawn northwards to Sale, on the banks of the Mersey, which divides Macclesfield from the rest of Northwich Hundred and the Hundred of Bucklow.—*Ormerod*, iii. p. 277.

The parishes within Macclesfield Hundred are: Alderley; Cheadle; Gawsorth; Mottram-in-Longdendale; Prestbury;

Northenden; Stockport; Taxal; and Wimslow; with their 69 townships. In addition, the townships of Somerford Booths, and Eaton, belonging to Astbury parish, and Snelson, belonging to Rostherne, lie within this Hundred, making a total of 72 townships.

BUCKLOW HUNDRED.

The form of Bucklow Hundred approaches nearest to that of an acute triangle; the north-west side of this, extending from Sale to Weston Point, is bounded exclusively by the Mersey; and the south-west side, extending from Over Peover to the same point, is bounded as far as Northwich by the Peover, and from thence to Weston by the Weaver. The third side or base, stretching on the eastern side from Sale to Over Peover, is defined by an imaginary line, drawn east of the parishes of Ashton, Bowdon, Rostherne, Mobberley, and Knutsford, and the parochial chapelry of Over Peover.—*Ormerod*, i. p. 314.

The following parishes are situate within the limits of this Hundred:—Ashton-upon-Mersey; Bowdon; Great Budworth (excepting the eight townships belonging to Northwich Hundred and the three to Eddisbury); Grappenhall; Knutsford; Lymm; Mobberley; Rostherne; Runcorn; Warburton; total, 73 townships.

EDDISBURY HUNDRED.

The boundaries of the Hundred of Eddisbury are defined, with one slight exception, by the courses of rivers. On the north, the estuary of the Mersey spreads the magnificent expanse of its waters between this district and the Lancashire shore; on the east and north-east the Weaver separates it from Northwich and Bucklow Hundreds; and the Gowry forms a similar line of division from the Hundred of Broxton on the south-west. The southern angle alone is defined by an imaginary line commencing at the sources of a small brook near Horsley Hill, and extending to the confluence of the Ashbrook and the Weaver below Swanlow, in the township of Over; and a part even of this line is accompanied by one of the principal feeders of the early course of the Weaver.—*Ormerod*, ii. p. 1.

The parishes situate within this Hundred are: Bunbury; Little Budworth; Tarporley; Barrow; Frodsham; Ince; Over; Tarvin; Thornton; Weaverham; Whitegate; together with the township of Weaver, in Middlewich; Iddinshall, in St. Oswalds; Castle Northwich, Hartford, and Winnington, in Great Budworth; and Bridge Trafford, in Plemonstall; making in all 59 townships.

WIRRAL HUNDRED.

In the animated description of the Cheshire rivers given by Drayton in his *Polyolbion*, he particularly notices the singular situation of the long and narrow peninsula of Wirral, interposing

itself between the powerful streams of the Dee and the Mersey, where they seem to be rushing to confluence, and diverting the broad current of the latter river towards the Irish Sea, forming thereby a sharp angle with its former course, which bore direct upon the side of this Hundred—

“ Where Mersey for more state,
Assuming broader banks, himself so proudly bears,
That at his stern approach extended Wirral fears
That, what betwixt his floods of Mersey and of Dee,
In very little time devoured he might be.”

These estuaries form the majestic boundaries of the Hundred of Wirral on two sides; the waters of the Irish Sea complete the line on the third side; and on the fourth its limits are defined by a deep valley, which runs across it in an irregular direction from the Mersey by Stoke, Croughton, Chorlton, Backford, and the two Mollingtons, to the Dee, and divides Wirral from the Hundred of Broxton.—*Ormerod*, ii. p. 187.

Wirral contains 94 townships, comprised in the following parishes:—Backford; Bebington; Bidston; Bromborough; Burton; Eastham; Neston; Overchurch; Shotwick; Heswell; Stoke; Thurstaston; Wallasey; West Kirby; Woodchurch; together with Birkenhead, Great Stanney, Shotwick Park, and Stanlow, extra-parochial; and Little Mollington, Blacon-cum-Crabwall, Croughton, and Hilbre Island belonging to Chester parishes.

The village of Oxton is mean and small, composed of wretched straggling huts amongst roads only not impassable; . . . no degree of civilisation or improvement has reached this part, which is a scene of solitude, broken in upon only with the voice of the cowherd or the cry of the plover. Bleak and barren moors stretch round it in every direction, and exhibit an unmixed scene of poverty and desolation.—*Ormerod*, ii. pp. 290, 291.

BROXTON HUNDRED.

Broxton is very irregular in form, but bears the nearest resemblance to an oblong, averaging about eighteen miles in length by eight in breadth, and stretching from north-west to south-east. The upper end or north-west side, commencing at Kinner-ton, is divided from Flintshire by an imaginary line extending to Blacon Point; and from that point to Stanlaw it is divided from Wirral Hundred by the Dee and the Ellesmere Canal, with the exception of the city liberties which intervene between Broxton and Wirral in a part of this line. On the north-east side the boundary-line of Eddisbury and Broxton Hundred ascends the Gowy and another small brook to Horsley Hill, and after an interval of two miles, joins and descends with one of the feeders of the Weaver to the corner of Cholmondeley. The south-east side abuts upon Nantwich Hundred and Shropshire. The remaining side on the south-west is the most irregular. Commencing near the second milestone from Whitchurch, it is divided from

Shropshire and the detached part of Flintshire by a small brook, which enters Flintshire near Oldcastle, leaving this Hundred and the county bounded for two miles by an imaginary line, which is then taken up by Flamings Brook, and afterwards continued by the Dee to Aldford, with some trifling exceptions, arising probably from variations in the channel of the river. At this point the county extends across the Dee, and is divided from Flintshire up to Kinnerton, where this description commenced, by a small stream which falls into the Dee opposite to Aldford.—*Ormerod*, ii. p. 319.

The parishes which make up this Hundred are: Aldford; Coddington; Farndon; Handley; Harthill; Malpas; Shocklach; Tilston; Christleton; Eccleston; Guilden Sutton; Plemontall (excepting Bridge Trafford township); Pulford; Tattenhall; Tarvin; Doddleston and Kinnerton lower townships in Doddleston parish; Caughall in Backford; Burwaldsley in Bunbury; King's Marsh extra-parochial; County of the City of Chester, with some trifling exceptions; yielding a total of 83 townships.

NANTWICH HUNDRED.

All the Hundreds of Cheshire, with the exception of the present one, have their general outline chiefly marked by natural boundaries, but those of Nantwich are almost exclusively imaginary. Its form nearly approaches to that of an ornamental heraldic lozenge divided paleways (from south to north) by the stream of the Weaver. The north-eastern side abuts on Northwich Hundred, and the north-western on those of Eddisbury and Broxton; the southern part is bounded by the counties of Salop and Stafford.—*Ormerod*, iii. p. 149.

Nantwich Hundred contains within its limits the parishes of Acton; of Audlem; of Baddiley; of Barthomley; of Coppenhall; of Marbury; of Church Minshull; of Nantwich; of Wistaston; in which nine parishes are 37 townships. To these must be added the townships of Betchton and Hassall in Sandbach, and Wirswall in Whitchurch.

NORTHWICH HUNDRED.

Northwich Hundred is stated by Webb to represent the shape of a triangle with three unequal sides; which is perhaps the best description of it that can be given, but its form is much too irregular to be reduced to any precise figure. The side which Webb would place on the south-west of the triangle extends from Church Lawton, on the edge of Staffordshire, to Winnington Bridge; it is divided from Nantwich Hundred by an imaginary boundary; and from Eddisbury Hundred, with some slight exceptions, by the Weaver; on the north-east, from Winnington to Bate Mill, above Over Peover, the boundary ascends the stream of the Peover, leaving Bucklow Hundred on the left, and is thence continued along the edge of Macclesfield Hundred to

Somerford, where it meets the Dane, and goes up that stream to Buglawton and the confines of Staffordshire. The base of this irregular figure stretches from hence to Church Lawton along the ridge of the Cloud or Mole Cop, which separates this county from Staffordshire, and marks, in strong natural characters, the Lime, or boundary of the original and present jurisdiction of the Palatinate on its English frontier.—*Ormerod*, iii. p. 1.

Of parishes in their entirety this Hundred only contains six, viz., Brereton-cum-Smethwick; Church Lawton; Davenham, including Rudheath; Middlewich; Swettenham; Warmingham; it comprises, however, nine townships of Astbury (Somerford Booths and Eaton being in Hundred 1); nine also in Sandbach (see Nantwich for other two); and Allostock, Birches, Hulse, Lach Dennis, Lostock Gralam, Northwich, Nether Peover, and Witton-cum-Twambrooks, in the parish of Great Budworth: total, 62 townships.

A SHORT ACCOUNT OF THE BUCKLOW HUNDRED

2. BUCKLOW.

THIS Hundred, which constitutes the second botanical district, is bounded very obviously on its northern and western sides by the River Mersey. Its eastern limit is less definite, but if from Northenden, on Mersey, an imaginary line be drawn fairly due south upon Withington, near Chelford, a distance of about twelve miles as the crow flies, at this last point Peover Eye Brook will be touched. For the southern boundary, the course of this brook, or, in old days, Peover River, seawards, must be followed until, by its confluence with Waterless Brook under Spring Wood, Holford, these united streams flow onwards, for no great way re-christened Wincham Brook, but still dividing the Hundred, and lose themselves in Weaver, which, from Northwich to Mersey Estuary at Weston Point, completes the limits of our district.

Bucklow is probably the most lowland and flat of the seven districts, containing a few insignificant eminences, but nothing approaching to a range of hills. The greatest altitude reached within its circuit is at Weston Hill, 262 feet.

It is a pasture country, not much adapted either for the growth of cereals to any large extent, or for sheep-farming on any extensive scale. The soil is too rich for corn, and too heavy for sheep. But the root-crops produced are good, though somewhat variable. But on the frontier, nearest Manchester, horticulture or market-gardening supplants the agriculture of the centre, in that portion of this district which lies north of the River Bollin, comprising the neighbourhood of Ashton-upon-Mersey, Bowdon, Altrincham, Timperley, and Sale. All species, therefore, occurrent in this trans-Bollin region only, and absent otherwise from inland Cheshire, require to be admitted in our county list as natives with the utmost caution. *Avena pubescens* and *Lemna gibba* are instances in point.

The Flora of Bucklow is, with one slight qualification, a purely inland one. Turning to the map, we find that, from the point where Weaver debouches into Mersey estuary, a strip of semi-littoral vegetation circles the Weston Point promontory, passes on by Runcorn and Halton Point, and ends at Norbury Wood, where the Mersey estuary contracts. This strip of circling shore,

about five miles to traverse, is in all probability occupied by the dozen or so commonest sublittoral plants, such as *Glaux*, *Aster*, *Plantago maritima*, *Spergularia neglecta*, *Atriplex Babingtonii*. We have an actual record somewhere on this strip for *Alopecurus bulbosus*, whose presence infers that of the rest; but it is most desirable that actual observation should confirm the above inferred list, and no doubt treble it.

The inland vegetation, after excepting this slight tinge of tidal influence, remains to be considered. The horticultural region has one characteristic plant, *Barbarea intermedia*, whose regularity of recurrence would suggest that here this species deserves almost promotion from the casual to the colonist grade. The mosses of Bucklow are characterised notably by *Andromeda* and *Drosera anglica*; more locally by *Carex curta*, *elongata*, and *limosa*. The fields of root-crops are seldom without *Galeopsis versicolor* and *Fumaria Boræi*. The cereal crops, as compared with South England, have little variety of weed-flora. *Lianunculus arvensis*, *Scandix Pecten*, *Alopecurus agrestis*, are all absent or very rare. A poppy of any kind is in Bucklow a rarity. The roadsides have no *Ballota*, *Malva sylvestris*, *Hordeum murinum*, and seldom do the hedges produce *Rubus discolor*. *Thymus* in the turf is wholly replaced by *Prunella*. The pits and the meres remain to be described botanically. The most typical mere occurring in district 3, these inland lakes, of which Bucklow possesses an adequate number, would be more appropriately described under Eddisbury. Now as to the pits. The word possesses a distinct provincial connotation, meaning an excavation of the surface for marl, which, when disused, rapidly fills with water. These pits, usually in fields, not at roadsides like ponds, are seldom either large or deep, say from 15 to 60 yards in diameter, and often circular. In old days, before the introduction of foreign or artificial manures, the efficacy of marl was greatly believed in as a renovator of the soil; and as in Bucklow one has generally only to dig for it to procure it, nearly every old Cheshire field has its appropriate marl pit, which remains sufficiently obvious to the present day. And when three or four small fields have been thrown into one by improved farming, the united field remains with as many pits within its single circuit. When marl was scarce and holdings were small, two or more pits were often excavated side by side, or rather back to back by separate occupiers, or at different dates, the old pit having become water-logged. The narrow ridge of surface land which lies between two marl pits is locally called a "mid-feather." These mid-feathers are ground lost to the farmer, but gained by the botanist, since in dry seasons the cows poach and tread down the whole circumference of the pits, except these mid-feathers, which are happily beyond their reach, and to these, and under their eaves, many of the most interesting aquatic and paludal plants in Mid-Cheshire retreat. In favourable seasons, or when its field is under tillage, these pits are fringed all round with a dense margin of vegetation, some two yards deep. Among this matted growth may generally be gathered *Enanthe Phellandrium*, and rather less

frequently *E. fistulosa*; also *Comarum* and *Carex pseudo-Cyperus*, *ampullacea*, *vesicaria*, *paniculata*, *Cicuta virosa*, more rarely *Ranunculus Lingua*. But the chief value of this multitudinous pit system, of which each is isolated from its neighbour, is, botanically speaking, as affording strongholds of retreat for that much persecuted genus *Potamogeton*, from its new-world exterminator. At the time this is penned, *Elodea* has reached the meres of Bucklow, but has not reached the pits. It took about ten years to reach the lakes after its first ascertained comital appearance. In the pits of Bucklow, and elsewhere in the plain of Cheshire, those two rare English *Potamogetons*, *obtusifolius* and *rufescens*, are common and characteristic plants. May these interesting aborigines long continue so! I suppose in the war of races they will ultimately perish from the face of Britain; but may that day be far distant!

The chief botanical stations in Bucklow are, commencing from the north, Seaman's Moss Pits; Hale Moss, which is fast disappearing; Baguley Moor, which is nearly destroyed; Carrington Moss; Ashley Meadows; the woods near Castle Mills, and pre-eminently Cotterill Clough; Burley Hurst Wood. Then Mere Mere (with the *Limosella*, *Littorella*, and *Elatine*); and Rostherne Mere (with *Cladium* and *Carex stricta*). All these places figure conspicuously in the three Manchester Floras, and in the Herbarium of Mr. Hunt. Then comes Holford Hall and Mill, whose dam produces *Callitriche autumnalis*, whose pits give *Acorus* and *Rumex maritimus*, its meadows *Polygala vulgaris*, and its Mill-wood *Carex elongata* and *involuta*; and Peover Brook skirted with *Geum rivale*. Holford Moss is handy, but mostly falls beyond this district. Passing north-east over Pickmere Moss (*Rubus fissus* and *Paris*), we reach the beautiful mere of Pickmere (*Sagina nodosa*, *Parnassia*, *Ranunculus Lingua*) and Budworth Mere. Neither must Knutsford with its heath, its upper moor to the N.E., its lower moor (*Carex limosa*, *Lastrea Thelypteris*, *Gymnadenia conopsea*, and formerly, alas! *Saxifraga Hirculus*) to the S.E., and its nearly destroyed Shaw's Heath, past the Cross Inn on the road to Mobberley, be forgotten.

No doubt this rapid enumeration omits many spots of interest, some of which remain unexplored owing to excessive game-preserving restrictions. Tatton Park Mere and Mere Heath are in this category.

The streams are, except Mersey and Weaver, narrow and inconspicuous. Bollin, Peover Brook, Timperley Brook, Marthall Brook, The Birkin, Waterless Brook, Wincham Brook, &c., will dispose of most of them.

On the whole, after Wirral (4), this Hundred is probably the best botanically explored one in Cheshire. But plenty remains even here to be done in its N.W. portion, for the neighbourhood of Appleton, Stretton, Danesbury, and Norton is almost untouched, and ought to produce many plants of interest.

A PHYSICO-BOTANICAL ACCOUNT OF WIRRAL

THE Hundred boundaries as defined by Ormerod are correctly stated, and to what he says of the three sides bordered by the Dee, the Mersey, and the Channel, I have nothing to add; but it may be well to particularise more minutely the line that separates from the adjoining Hundreds of Eddisbury and Broxton. The river Gowy up to a point in its course due N.W. by W. of the village of Stoke clearly divides from the former, and from this point, which is the north apex of Broxton, an artificial diagonal line of, say, a mile takes us across the canal at Croughton: thence, the canal on its north side, to half of the space intervening between the crossing of it by the Birkenhead road and by the railway viaduct near Mollington, is the boundary. From this point to Stone Bridge on the north outskirts of Chester, the canal forms a free division (the whole of it and a very narrow strip of adjoining eastward land being in Wirral); and from Stone Bridge a short line due south entering the upward semicircular loop of the Dee below Chester, and continuing along the artificial channel to 53° 11' of the Ordnance Map, carries us to the Welsh frontier.

A glance at the map will show what an extensive coast-line the Hundred possesses in proportion to its superficies, probably not less than 45 to 48 miles (if we include the Bromborough and, in part, the Wallasey inlets, the Hilbre Islands, and the old shore-line between Burton Point and Blacon Point) for an area of about a hundred square miles. This coast-line varies very much in different sections: sometimes we have low-lying marsh-land; sometimes prominent rock; sometimes steep boulder-clay cliffs; sometimes a range of sand and shingle beach, backed or not, as the case may be, with sandhills; sometimes stone walls and embankments, or other artificial constructions, to prevent the ingress of the sea at high tides; and so on; all of which features modify the marginal vegetation to an extent that may render it desirable to give an outline account of these coast characteristics as they follow one another from Stanlow Point on the Mersey, to Blacon Point at the opposite extremity of the Hundred.

Between Stanlow Point and Ellesmere Port a tract of low-lying land under the level of spring-tides abuts on the shore, from which large portions have been swept away and entirely lost during past years and up to the present date. There is no time,

consequently, for a special maritime vegetation to settle here; but that of the shore is that of the adjoining flat grazing-grounds. Where no substantial protection has been erected, a similar destruction has taken place as we follow the river down towards Eastham, becoming less evident under the Hooton Hall grounds, where the banks rise, and there are some productive woods down to the water-edge, but the marsh-strand has been swept away. South of Eastham Ferry the coast-line is now protected. In the past the shore has been much encroached upon by spring-tides, and is botanically poor—a poorness necessarily continued northwards of the Ferry for half a mile, as the tide rises to the base of the rocky banks that border the coast, and, excepting occasional tufts of *Armeria* or plants of *Plantago*, the vegetation is without maritime characteristics. Proceeding onwards, at about half-way to Bromborough Pool, we reach a marsh-strand (now gradually being lessened in extent) which gives *Spergularia marginata*, *Cochlearia anglica*, *Statice Limonium* (being the only Wirral locality for the last named now left to us), and other sea marsh-plants. This is, I believe, a sample—a remnant indeed—of the ground which in olden times formed the bulk of the Mersey strand along the full length of Wirral. I may parenthetically remark, what a pity it is that a good botanist like Mr. Waring (*q.v.*) should have left no record of the maritime plants which a hundred years ago grew on the stretch of ground we have now had in review, with its continuation along Eddisbury. There is every probability that what at the present time are great rarities with us, in his day fringed the whole coast; he simply says, “I have passed over the maritime plants unless found also in inland places, because such as I have observed are not peculiar to my part of our coast.” When this patch of original shore-marsh is passed, there is nothing to be had up to the muddy mouth of Bromborough Pool. The tide flows up the tortuous bed of the Pool for about a mile, the best botanising ground being along that part situated between the Chester road and the road running from Bromborough to Bebbington, or, otherwise expressed, that portion covered by the two words “Bromborough Pool” in the Ordnance Map. Here may be gathered *Atriplex portulacoides*, *Artemisia maritima*, *Bupleurum tenuissimum*, &c. The river-coast from the north side of Bromborough Pool consists of unproductive field-edges and clay-banks. Between New Ferry and Rock Ferry is a “Parade,” and we have a succession of mud-banks, ferries, private property, ship-building yards, &c., all along to Egremont.

According to the Floras of Hall and Dickinson, the ground between Egremont and New Brighton in their botanising days afforded some good plants, but at the present time very little can be obtained. The abutting clay-banks rest upon a bed of sand and gravel, and, unless wall-protected, these banks are readily undermined by the strong current now cast on this shore in consequence of the continuous line of works erected on the Liverpool side. The frequent slips of the surface of the banks of course offer no abiding place for vegetation.

I have passed Wallasey Pool, which is now for two miles inland converted into docks, and the old shore vegetation of the time of *Hall, Flo.* is entirely obliterated. I shall have occasion to speak later on of its upper portion, and I shall allude to the existing ground alongside the lower portion when I make some remarks upon Ballast Plants.

At New Brighton recent building operations and enclosures have much curtailed the tract of botanising ground that lay in proximity to the road due west of the Ferry; but there still remain sandhill patches, where, amongst the short turf, some interesting plants to an inland botanist will be readily detected; and if we pass northwards down to the shore, and along the beach to the "Red Noses," we soon enter upon a range of sandhills proper, called "Leasowe Sandbanks." These extend onwards for more than two miles to Leasowe Castle, varying in breadth from about a half to an eighth of a mile. As a rule, the *inland* side will be found the most productive, for there lie the marshy hollows and sheltered valleys which yield such plants as *Carex Ederi*, *Equisetum variegatum*, *Festuca uniglumis*, &c.; and there *Brassica monensis* and other plants scattered over this range appear in the largest quantity. The sandy fields which adjoin the sandhills are also botanically good. On the whole, the most handy and perhaps the best part of this range is the ground within a quarter of a mile circuit of the north extremity of the road through Wallasey village.

For, say, $1\frac{1}{2}$ miles west of Leasowe Castle the flat country which lies under the level of spring-tides is protected by a strong stone-work embankment. It has thereby been saved from destruction similar to that which has befallen thousands of acres on this part of the coast and has entirely swept away the old maritime flora. An idea may be gathered of the sea encroachments hereabouts by mentioning that the Leasowe Lighthouse, of little more than a century back, stood to seaward *beyond* the line of present *low* water, and its site is not now recognisable. On the flat which lies inside of the embankment (called sometimes in the Flora "the Leasowe shooting-range") there is a mixed flora—part maritime, part that obtaining inland—which, from its recent possession of the ground, is barely developed. Onwards to Dove Point, and from thence below Great Meols to the outskirts of Hoylake, we have another range of sand-dunes, of the vegetation of which there is nothing particular to note. These in the Flora are called "Dove Point Sandhills." To seaward—say at Dove Point—may be seen the remains of an extensive forest submerged at high-water, about which a great deal has been written in local literature. It furnishes further and systematic proof of the great progressive advances of the sea over this Channel coast within historic times.

The land at the extreme N.W. corner of the peninsula projects as a rocky tongue called Hilbre Point, from which the "Red Stones" are outliers and form some protection for the neighbouring coast. Directly opposite to Hilbre Point is situated Hilbre Island, distant a trifle over a mile, to which, as a deservedly

favourite botanising ground, this Flora will be found to bear testimony, e.g. under *Statice auriculæfolia* and *Spergularia rupestris*. South-east of Hilbre are two other islands, one the so-called Middle Island, and the other (a few roods of rock, producing *Thalictrum minus* and a fair flora for its very small extent) called Little Eye. The sandhills and undulating sandy wastes stretch inland from Hilbre Point, forming an extensive area down to Hoylake racecourse and Hotel: similar style of ground also extends southwards, thinning out under West Kirby. The Flora name for this range is "Hilbre Point Sandhills," and hereabouts some good plants may be had, e.g. *Conv. soldanella*, *Euphorbia Paralias*, *Eryngium*, &c. The sandy fields and banks which are on the inland edge of the tract just mentioned also afford good and instructive botanising. Here the flora of the sandhills proper is mixed with that of the country stretching still more inland, with the addition of certain species such as *Onopordum*, *Silene anglica*, *Bartsia viscosa*, which with us may be said to be peculiar to this corner of Wirral. On the higher ground at Grange overlooking this area we reach *Trigonella*, *Trifolium subterraneum*, *Festuca Pseudo-myurus*, and other interesting and very local species. We further have within a mile some exceptional plants, to wit, *Orchis pyramidalis* and *Ophrys apifera*, the presence of which seems best accounted for by the soil hereabouts containing a sufficiently large percentage of calcareous matter from the decomposition of shells to afford the needed pabulum. A suggestion has been ventured that they have been introduced with lime brought for agricultural purposes; but a personal acquaintance with the country shows the improbability of such being the case, besides the correlative fact that the same two species have been found at intervals during fifty years on similar ground about Crosby on the Lancashire coast.

(It may be worth while to state that from the shore opposite to Little Eye is the best way to cross to the Hilbre group. Make straight for the Little Eye—the sands between are firm and clean—and, having reached it, the ridge of rock points the way to the Middle Island and so on to Hilbre. The walk is practicable two hours after high-water, and safe to within two hours of high-water.)

Where the sandhills leave off under West Kirby, they are succeeded by the broken edges of fields, giving a coast-line which is subject to constant tearing away by the tide. When there is exceptionally heavy weather, this part greatly suffers, for it receives the full blast of the prevailing N.W. wind. On such occasions, the artificial protections are overthrown and swept away, and necessarily there is no show of permanent maritime vegetation. These field-edges merge into what we may call "cliffs" of stiff boulder clay, which, as we pass under Caldý, increase in altitude above the shore level, until they attain a maximum of say fifty or sixty feet over against Dawpool below Thurastaston. Where their surface-slope is exposed, it is fissured and rent in all directions by the combined destructive action of the drainage from above forcing

its way through the soil, the wear and tear of wind, rain, and frost, and the undermining of the tide. The beach in places is strewn with huge blocks of the fallen clay—blocks in some instances as big as a house—which by daily tidal gnawings are absorbed and carried to the river mouth to form impeding banks to the channel navigation. Their place in due time is supplied by a fresh relay from above, and so year after year the water is wearing away these really striking cliffs of clay. In some sheltered nooks a few plants will be found congregated, and on a stretch of shingle beach grows *Polygonum Raii*, but this can be had finer a mile farther along, when Heswell Point is passed, and a piece of heath-land is reached which quite comes down to the shore. This patch of ground and its surroundings is termed in the Flora "Heswell Shore Heath," and it offers a variety of good plants—maritime, semi-maritime, and dry and damp heath species. Continuing forward, we find *Sclerochloa rigida*, *Trif. striatum*, &c., on the bank and the adjoining turf. About Heswell Cottage of the Ordnance Map (now demolished) we again have a range of exposed clay-banks (with plenty of *Triticum pungens*), which lessen to within a quarter of a mile of Gayton Cottage, and then rise somewhat, and are topped by a rough vegetation as a belt up to the cultivated land. This elevated coast margin in the Flora is for shortness denominated "the Scrub," and produces *Geran. sanguineum*, *Thalictrum minus*, &c. Between Gayton Cottage and Parkgate are five fields bounded by a sea-wall, which their respective divisions meet at right angles, and taking the footway along this sea-wall an instructive study of *Tritica* may be obtained. In the last field or enclosure, and on rough ground about the lime-kiln, some desirable plants are established, such as *Coch. danica*, *Sclerochloa loliacea*, *Medicago maculata*, &c.

"Clay-banks of the Dee" is a favourite expression of the earlier Liverpool Floras. It is vague, but must mean the coast we have just now had under review between West Kirby and Parkgate. From internal evidence and the plants referred to it is most improbable that any part of the river shore *above* Parkgate can be intended.

For nearly a quarter-mile south of Parkgate the land is protected by a sea-wall, at the base of which is a sand and shingle beach, passing into a surface of boulder clay. The vegetation is next to none. Past the lane from Moorside the shore for some distance is quite open, and the field-banks present a broken indented outline. The drainage from the slopes, working its way to the lower level of the shore, trickles over the sandy shingly intermediate belt, forming sloppy patches or collecting into depressions, and here we get the first approach to a sea-marsh flora in the Parkgate neighbourhood—indeed the first we have had since quitting the Mersey side, as testified by the presence of *Aster*, *Sueda maritima* and like species. In places where the beach widens or becomes higher, we meet with patches of dry shifting sand and shingle which produce *Honkenya*, *Trit. junceum*, &c. Approaching the Colliery, the ground becomes lower and is marshy.

At the Colliery and its practical continuation, separated on the Ordnance Map as "Denna Colliery" and the "Brickworks," the heaps of old refuse now covered with a scant vegetation give us some interesting species, but the poorness and want of compactness of the ground causes those that cannot stand drought to wither and die off at an early period of the year, e.g. *Trigonella* and *Trif. striatum*. On to "Denhall House" from the Brickworks the walk is uninviting: a beach composed in great part of fragments of coal and shale is succeeded by an immense flat showing clumps of *Sclerochloa maritima* when the tide is out, but for a short period every twelve hours covered by the sea. This flat continues up to the embankment lately formed to the westward of Burton Point. Before we actually reach the rocks composing Burton Point, some excavations will be noticed from which gravel has been taken, and here occur some unusual and rather suspicious novelties (*Hyoscyamus* and *Carduus nutans*). We get here, too, the last patch of flora that is characteristic of our loose- or drift-sand shore margin. The Point is a rather handsome "Pebble Bed" bluff, crested with trees and with miscellaneous groups of plants on its ledges. After rounding this prominence, on our left a stretch of some two hundred yards is occupied by a swampy piece of ground, occasioned by the outfall of the streamlet passing down through Burton, and the margin of this swamp is the locality for *Blysmus rufus* and *Carex extensa*. On our right, and extending for more than two miles, is a dreary flat similar in formation to that lately left, but protected from the flow of the tide, and in process of time all this sheltered area will be brought under cultivation, as has been the case with the district called Sealands higher up the river. Indeed, walking from Burton Point to Blacon Point, we pass from the tide-covered mud flats to fertile corn, meadow, and pasture lands, all originally the Dee estuary. Most of this re-covered and reclaimed land belongs politically to Flint, and is avoided in this Flora. A line of rails marks the division of the shires across this flat, and supplies the only eyemark riverwards in the monotony of the long tramp between Burton and Shotwick. Higher up the river the boulder-clay cliffs—the old river-bank—in portions nicely wooded, show us a prominent landmark for the Cheshire boundary-line, which for the four miles between Shotwick and Blacon lies about two hundred yards from their base.

The present Dee channel was completed about a hundred and twenty years ago.

Having now worked our way along the coast, I will detail a few observations upon the inland characteristics of this Hundred.

The rock of Wirral belongs to the two British representatives of the New Red Sandstone formation—the Keuper and the Bunter. The former includes the seven or eight square miles of red marl on which Moreton, Soughall, Arrowe, and Lower Pensby are situated, and also includes the waterstones—a prized building-stone—of which there are, or have been, quarries at Storeton, Flaybrick Hill, and Wallasey. To the Bunter series four-fifths of Wirral appertains: the "Soft Variegated" being predominant in

the northern half, and the intermediate "Pebble Beds" in the south.

Where these rocks are not covered by a mixed drift of sand and clay (which in various proportions overspreads the country generally), and they rise into hills, the hills bear the ordinary run of Heath vegetation, with a more diversified flora upon the soft beds of the Bunter (arising from its readily yielding a detritus favourable to plant growth) than obtains on the coarse and hard Pebble Bed and the gritty Waterstone. Two hill ranges form a prominent feature of the peninsula—the one, of about eight miles, extending from the north-east corner at New Brighton southwards to Brimstage; the other, of about six miles, bordering the Dee from the Hill Houses at West Kirby to its south extremity towards Gayton. The first of these is made up of the three sandstones spoken of above, and consists of what are locally known as the Wallasey Hills, the Flaybrick, Bidston, and Oxton Hills, and the Storeton Hills. The western range is made up of "Pebble Bed" and "Variegated," and includes Grange Hill, Caldý Hill, Thurstaston Hill, and Heswell Hill. The last named rises to 360 feet, and is the highest ground of the Hundred.

The comparatively flat land which lies between these two ranges, and the undulated ground which occupies the southern remainder of Wirral, is parcelled out into farms and private properties. Excepting fir plantations, the woods are young, scanty, and scrubby, the prevailing N.W. wind distorting and stunting the trees where exposed; and it is only in the sheltered parts about Bromborough, Eastham, and Hooton that we obtain any variety of sylvan plants. The Heath botany is interesting: Oxton (swampy), Bidston (dry), Grange (dry), Thurstaston and Heswell (mixed), will all be found frequently mentioned in the locality lists of the Flora. Of ground adapted to non-erictal marsh plants there is not much in the Hundred; one very good bit, however, exists alongside the stream from Thornton Hough as it nears Raby water-mill, and is sometimes termed in the Flora the "*Pinguicula* ground." Another productive locality is the "Lang Fields," which lie to the east and north of the hill-slope between Grange and the Hill Houses, and may be entered by turning to the left from the fifth field through which the pathway from Hoylake Station to West Kirby passes. The flat ground about Bidston and Moreton is also of this character, and merits a visit.

Throughout the Hundred the road-edges and the hedge-cops produce good plants, varying according to soil and situation. Where the coast is handy, outliers of the sandhill vegetation trespass inland on to stations of the above-mentioned character, a caution to be borne in mind to prevent us construing too rigidly the headings of our littoral species. The hedges themselves and adjoining rough overgrown ground have been productive of a fair series of forms in *Rosa* and *Rubus*.¹

¹ That these genera had full scope to develop may be judged from the following extract from Mortimer's "Wirral." He says: "Many (of the fences) are allowed to run so wild that they cover two or three yards on each

The Salt-marsh plants have already been referred to, excepting those of the upper part of Wallasey Pool. This marsh-land (Bidston Moss of the Ordnance Map) is the east portion of an alluvial flat which continues as a strip about a mile in width along the north of Wirral to the Dee shore at Little Meols, and is bordered seaward by the sandhill range. The tide extends up the Pool as far as Warrington Bridge. In the days when this inlet existed as Nature formed it, and the tide-water spread over the adjoining ground, we can imagine that "the Moss" was a capital field for botanical study. The circumstances are now altogether altered: the tide passes along an embanked channel; the surface of the land has been raised by the deposit of soil from the bed of the old Pool, and drainage has almost obliterated the trenches and ditches that formerly intersected the area. Only the commonest and most hardy maritime plants of the district manage to survive. Some maritime and semi-maritime plants, both land and water, may be obtained by the botanist from the wastes and the pools near the Great Float, the Docks, and about Sea-combe.

As to Fresh-water plants, the Hundred is deficient in large pieces of water, but the "pit" is here, as elsewhere in the county, a feature of the fields, affording valuable botanical additions. Some pieces of water on the heath-lands are also productive, and the canal has imported for us some rarities. The watercourses are inconspicuous. The two principal ones are those which empty into Wallasey and Bromborough Pools, called respectively the Birket and Dibbinsdale Brook. The Birket drains across the country from Caldy, receiving in its course Greasby Brook and Arrowe Brook (their names bespeak their location), which have united as one watercourse at Soughall: it also receives, at rather less than a mile from its entry into Wallasey Pool, a watercourse called the Fender, which drains the central valley from Bidston to Storeton on the one side, and from Moreton to Barnston on the other.

The drainage area of the Birket is about twenty-five square miles. Dibbinsdale Brook commences between Ledsham and Sutton: passing north near Raby Mill, where it receives streams from South Storeton, Brimstage, Thornton, and Raby, it continues a meandering course still north until it meets the tide at Bromborough Pool. An independent stream which rises at Capenhurst, passes out under Hooton Hall, and various other small streams issue into the Mersey along the coast-line of the

side of the ditch, and are so high as in a great measure to prevent the circulation of air in small fields: there are some farmers who scarcely think it necessary to cut a hedge unless thorns are wanted to repair the gaps, or some such occasion requires it." The recent altered character of the farming has destroyed this botanical paradise. In places where the above would correctly apply a dozen years back, we now find the strong stems of the hedgerow cut off near to the base, and the shoots "laid" and "plashed" in the most approved method. One of the prizes of the Wirral Agricultural Society was, and perhaps is, for the greatest length of this renovation performed during the year.

Hundred. On the west side of the peninsula, from the proximity of the high ground to the River Dee, the drainage into that river is very insignificant, not exceeding in the total that of a fifth of the Hundred. There are streamlets from Thurstaston, Oldfield, Gayton, Neston, and Burton, not any of which are above a mile in length. A longer watercourse passes through Shotwick, uniting with another which skirts the old Dee banks from Blacon up to Shotwick. Below Blacon Point, Finchett's Gutter works eastward into the Dee at Chester, and a watercourse by Mollington enters the canal north of Chester. None of the above streams supply any notable botanising; but some fair plants may be found in and along the sluggish watercourses which go to make up the Birket.

It remains to mention the Ballast Plants. These originally have appeared on the wastes near the Birkenhead Docks, the seeds having been brought with ships'-ballast, which has been deposited there, and when this ballast has been dispersed for road-making purposes (as about Claughton and Oxton some ten to twelve years ago), a number of these exotics have sprung up amongst the macadam and along the road-edges. They have lasted in these positions for a season or two only, and have then either died out or been crushed out by the traffic. With the exception perhaps of *Melilotus alba*, there is no present instance of a plant thus introduced with ballast having permanently established itself over an increased and increasing area.

To a stranger examining this Flora, a striking point of the Wirral botany will probably be the noted *absence* from the Mersey coast of many plants entered as "frequent" or "common" around the Channel and the Dee coasts, and he will naturally ask, How does this arise? how is this explained? I must, in reply, refer him to my detailed remarks upon the coast characteristics, and further point out to him the two lines of hills which cut off a larger portion of the east and west coasts, whereby the botany of the Dee side has Welsh (Flint) features, and that of the Mersey assimilates to that of the neighbouring Lancashire shore. In addition, the rock which comes to the surface on Mersey is mostly the hard Pebble Beds, in contradistinction to the western flank of the Dee hills, which consists of the detritus-yielding Variegated Sandstones.

The difference is so striking in the plants produced on the two shore-lands of the peninsula, that to a local botanist to transpose a certain plant from Gayton to Bromborough, though only five or six miles distant, represents as much as the general botanist detects in a record, say, of *Sibbaldia*, transferred from the Scotch mountains to those of Westmorland, or say, *Primula farinosa*, transferred from the Lake District to the Snowdon range.

A LIST OF PERSONS CONCERNED IN THE PAST WITH CHESHIRE BOTANY.

AIKIN, ARTHUR, Mr.

With. Arr. ed. iii. ; *B.G.*

A great deal of Cheshire botany may indirectly be traced up to the Warrington Academy, where such men as Wm. Roscoe, Pennant, Dawson Turner, &c., were visitors, and George Reinhold Forster and Dr. Priestley were professors. Mr. Aikin was grandson of the Principal of this institution, being a son of the Dr. Aikin well known in the literary world (consequently a nephew of Mrs. Barbauld), and was Secretary to the Society of Arts, and Chemical Lecturer at Guy's Hospital. His early associations would throw him into the study of botany, and the records above referred to were rendered when a young man. He does not appear to have given attention to the study in later years. He died in 1854, aged eighty.

ARMISTEAD, WILSON, Mr.

Compiled the "Meteorological Tables and Observations for the Year 1839," forming the Appendix to *Hall, Flo.*, and his name appears three times as an authority for plant localities in that work, *e.g. Samolus*, p. 71. [Died in 1865.]

ASTLEY, F. D. P., Mr.

A list of some plants observed in the neighbourhood of Taxal by this gentleman was furnished by Mr. Churchill Babington to Mr. Watson about 1836, and is used by him in the supplementary Cheshire list in *N. B. G.* Mr. Watson has obligingly favoured me with this manuscript, from which I have extracted several additional records.

BABINGTON, CHARLES CARDALE, Prof., F.R.S.

At the Liverpool meeting of the British Association in 1837 Mr. Babington had an unfavourable opportunity of some botanising on the Cheshire side, when and where he appears to have gathered *Polygala oxyptera*, besides seeing the plants mentioned by Prof. Graham in the second annual report of the Edinburgh Botanical Society, p. 37.

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Prof. Babington has also authenticated specimens of *Rubus* sent to him by Mr. G. E. Hunt, chiefly from the neighbourhood of Bowdon. [Died 1895.]

BAILEY, CHARLES, Mr.

Has brought forward some matters relating to Cheshire botany before the Manchester Literary and Philosophical Society, and has made some important additions to the Cheshire Flora, e.g. the discovery of *Alopecurus fulvus* at Oakmere.

BEAN, WILLIAM, Mr.

Dick. Flo. (A locality for *Geranium columbinum*, and for *Calamintha officinalis*.)

A Mr. Bean with doubtful initials in *Topog. Bot.* is presumed to be the same individual.

BORRER, WILLIAM, F.L.S.

It is a pleasure to include Mr. Borrer amongst those who have botanised in Cheshire. His Herbarium at Kew shows that he was at Beeston and at New Brighton. The old erroneous Beeston records probably incited his curiosity, thus bringing him into the footsteps of Ray, Lightfoot, &c. [Died in 1862.]

BOSTOCK, Dr.

With. Arr. ed. v.

At the early part of the century Dr. Bostock was one of the prominent men of Liverpool. He was a correspondent of Sir J. E. Smith, and, though not much of a botanist, locally helped forward the study. His communications to Withering chiefly relate to Lancashire. [He died in 1846.]

BOULT, Mrs. FRANCIS.

Proc. Liv. L. and P. Soc., 1862, and *Notabilia*.

Commenced collecting about 1861, and has recorded some interesting plants from Wirral. Drew early attention to the foreign species springing from the ships'-ballast used for road-making about the outskirts of Birkenhead.

BOULT, Mrs. SWINTON.

Collected about 1861-67 (*vide Flo. Liv.*). Found *Dianthus deltoides*, *Cerastium arvense*, &c.

BOWMAN, J. E.

N. B. G.; *Francis*; *Topog. Bot.* (see p. 518); &c. .

Sagittaria, *Mentha Pulegium*, *Sison*, *Myosurus*, &c., were first recorded by Mr. Bowman as Cheshire plants. Mr. Watson in a MS. communication calls him a competent and reliable botanist, which opinion I quite endorse. [Died 1841.]

BRADBURY, Mr.

Besides the bulk of the Cryptogamic list in *B. G.*, Mr. Bradbury contributed upwards of 70 stations for the rarer plants of Cheshire. He appears to have been a good botanist, and, apart from one or two errors which can readily be accounted for, I have quoted his contribution with every confidence. Mr. Bradbury subsequently went to America to collect for the Liverpool Botanic Gardens. There is a facsimile signature, "*John Bradbury*," on one of the autograph sheets in vol. ii. of "*Memoir and Correspondence of the late Sir James Edward Smith*." [He died in 1823.]

BRENT, FRANCIS, Mr.

Dick. Flo. (Sagina subulata); Topog. Bot.

BRITTEN, JAMES, Mr., F.L.S. (British Museum).

Sundry communications, both personal and to *J. of B.* Also specimens in *Herb. Brit. Mus.* and *Herb. Kew.*

BURTON, Miss E.

Topog. Bot.; E. C. Rep. [Died 1897.]

BUXTON, RICHARD, Mr.

Author of *Buxt. G. (q.v.)*, and chief contributor to *Wood, Flo. (q.v.)*. Prefixed to both editions of the "*Guide*" will be found an autobiography brought down to the year 1849, and it is only necessary to add that Mr. Buxton died in his 80th year on January 2, 1865.

Dr. Wood very justly mentions his "*acute powers of perception*," his "*untiring industry and perseverance*," and his "*extensive (botanical) knowledge and experience*." Indeed, he was a self-educated man of the best type.

BYERLEY, ISAAC, Mr., F.L.S.

Dick. Flo. (Trif. subterraneum).

Mr. Byerley published a "*Fauna of Liverpool*" in 1854.

CALEY, GEORGE.

With. Arr. ed. iii. and iv.

For a Memoir see *Mag. Nat. Hist.* vol. ii. p. 310, and vol. iii. p. 226. [Died in 1829.]

CHAPMAN, H.

Flo. Liv. (Parietaria and Galanthus).

Mr. Chapman is mentioned as one of the continuators of *Flo. Liv.*

CHRISTY, WILLIAM, Jun.

Baxter Br. Bot. (several Cheshire localities).

Mr. Christy does not appear to have printed anything for the county in the journals to which he contributed. He died in 1839, and gave and bequeathed his herbarium and library to the Botanical Society of Edinburgh.

COLLINGWOOD, CUTHBERT, M.B., F.L.S.

For a few years, say 1858-63, resided in Liverpool, and had there a botanical class. In *Proc. Liv. L. and P. Soc.* xv. (1861), he enumerates ten good localities for Wirral. (Two of these appear in *Flo. Liv.* to Mr. Thompson, presumably a member of his class.)

CROWTHER, JAMES.

Wood, Flo.

See *Buxt. G.* p. viii. Died 1846.

CROZIER, GEORGE.

Wood, Flo.

See *Buxt. G.* p. ix. Died April 1847.

DAVIES, EDWARD.

App. Flo. Liv. (*Gentiana Pneumonanthe* at Runcorn Heath, and various rather interesting introductions on the Dee Cop, N.W. of Chester city).

DAVIES, Rev. HUGH.

The author of "Welsh Botanology," and a first-class botanist. In *B. G.* we have Cheshire stations for *Galeopsis versicolor* and *Bartsia viscosa* on his authority. He was a personal friend of Mr. Pennant, and they went to the Isle of Man together, probably starting from Parkgate. [Died in 1821.]

DICKINSON, F. (of Birmingham).

The authority for some South Cheshire (Marbury) stations in Leighton's "Flora of Shropshire."

DICKINSON, JOSEPH, M.A., M.D., F.R.S.

Contributed a dozen Cheshire localities to *Hall, Flo.*, and twelve years later published his "Flora of Liverpool" (see *Dick. Flo.*), followed in 1855 by a Supplement.

The leisure Dr. D. was enabled to devote to the practical study of Natural History for a few years following 1838 (about which year he commenced residence in Liverpool) was gradually curtailed, and finally absorbed by professional occupations; but he was always ready and eager to render advice and assistance, and especially did everything in his power to foster and further the study of local botany.

He died in July 1865.

EGERTON, Sir PHILIP DE MALPAS GREY, M.P., F.R.S., &c.

A lecture delivered to the Chester Society of Natural Science, November 19, 1874, contained some plant localities about Oulton, which I have quoted. (Reprint by Stephen Austin & Sons, Hertford, under the title, "Our Holiday; or The Cruise of the *Julia*." [Died in 1881.]

GARNER, ROBERT, F.L.S.

The Author of "The Natural History of the County of Stafford," in which book are some Cheshire plant stations. Those about Alsager, Congleton, and some of the Wybunbury, rest upon Mr. Garner's personal authority. I was short of records for Alsager, and the present are serviceable. [Died in 1890.]

GASKARTH, JONATHAN.

The authority for *Colchicum* as a Cheshire plant in *Hook. Br. Fl.*

GERARDE, JOHN (as the name is spelt on the title-page of his Herball), or Gerard (as he spells it in his prefatory notice), or Gerrard (as it is written in the entry of his burial), is the father of Cheshire botany.

No satisfactory account of Gerarde's life has yet been compiled. The best is still that in vol. i. pp. 110-125 of Pulteney's Sketches, and if to this is added the substance of a paper in the "Journal of Horticulture" for February 18, 1875, we get almost all that is at present known concerning him. That he was born at Nantwich (about 1545), that he went to school at "Wister-som" (Wistaston), and that he had clambered Beeston Hill, and had been at Chester, or Westchester, as it was then called, are local points established by his writings. In addition, it may be noted that he evidently retained a strong regard for his native county, and gave it a good word when the opportunity offered.

We do not know when he went to London. The internal evidence of his Herball as it relates to Cheshire plants suggests that he left the county at an early age. He says when speaking of a supposed Beeston plant, "if memorie faile not," and he appears to have carried away with him the childish idea of Beeston Hill being a mountain, and Chester a suitable place for all sea-side plants. Thus "the Alpes neere Piedmont and Bavier," and "the colde mountaines of Savoie," are coupled with the former; whilst "about Westchester, and upon the Mediterranean sea-coast and about Venice," is the range given for *Trifolium Coch-leatum marinum*.

I have given extracts from his Herball in several instances, and where his statements have bred error in modern records, I have traced the error back to its origin.

Gerarde died in 1612.

GIBSON, SAMUEL.

We have (*Phyt. i. p. 177*) a noteworthy article by Mr. Gibson upon the species and varieties of British *Sagina*, and on p. 217 notes on *Arenaria rubra* and its allies. There are in the same volume numerous other communications from him, and the whole bear upon Cheshire botany. They will be found quoted in several instances.

Mr. Gibson was a clever naturalist. He died in 1849.

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GIBSON, THOMAS.*Notabilia; Flo. Liv.*

It may be remarked of Mr. Gibson that up to and past sixty years of age, he was so absorbed in business as to have no leisure for other pursuits, or opportunity of acquiring scientific knowledge. It was not until his retirement, and his sixty-fifth year, that he turned his attention to Botany, Conchology, and other branches of Natural History, to which he has given continued attention during the past fifteen years, and has personally formed valuable collections. He has done some good work for the Liverpool flora.

[Mr. Gibson was brother of the late Mr. S. Gibson, entered above.]

GISBORNE, REV. THOMAS.

E. B. (A correspondent of Sir J. E. Smith, and sent him the small form of *Catabrosa* from Parkgate.) [Died in 1846.]

GORDON, REV. GEORGE. [1801-93.]

N. B. G.; Topog. Bot. (See my note under *Stellaria glauca*.)

GRAHAM, ROBERT, Prof., M.D., F.R.S.

Proc. Edin. Bot. Soc. (The Report for 1837-38, p. 37, and for 1838-39, p. 44, shows that Prof. Graham had personally botanised in Cheshire.) [Died 1845.]

GRIFFITH, J. W.

B. G. (Gentiana Pneumonanthe.) With. Arr. ed. v. (Senecio saracenicus.) A useful botanist who did a good deal for North Wales botany.

GRUNDY, Miss CLARA.

Proc. Liv. L. and P. Soc. 1862; *Notabilia; Flo. Liv.*

Has made numerous and some very good additions to the flora of Liverpool. Undoubtedly the best lady botanist after Miss Potts.

HALEY, BENJAMIN.

About 1790 communicated *Saxifraga Hirculus* to Mr. Curtis (*vide Fl. Lond.*). A gardener at Tatton Park, Knutsford.

HALL, THOMAS B.

Wrote the first "Flora of Liverpool," issued in 1839 (see *Hall, Flo.*), having two years previously communicated to the "Naturalist" a list of the plants he had noticed around Liverpool, together with several other papers bearing upon local botany. The personal records of Mr. Hall are chiefly in the immediate neighbourhood of Woodside (Birkenhead), where he resided at the time the Flora was written, and many of his localities are now destroyed. He subsequently removed to Coggleshall in Essex.

HARDY, JOHN. [1817-84.]

E. C. Rep. 1859. *Proc. Manch. L. and P. Soc. Topog. Bot.*

HARRISON, JOHN.

Contributed many localities to *Dick. Flo. and Supp. Dick. Flo.*, the bulk of which, however, belong to the Lancashire side, where he made some very good discoveries.

His Cheshire records are mainly from the extreme west of Hundred 2, about Runcorn, Rock Savage, and Aston, whence he is the first to report *Sanguisorba*, *Serratula*, *Dipsacus pilosus*, *Galeobdolon*, *Carex pendula*, &c. His, too, is the first record of *Pinguicula* from Raby.

Some unlikely plants are inserted on his authority which I wish I could satisfactorily explain, namely, *Lathyrus sylvestris*, *Hypericum hirsutum*, *Campanula Trachelium*; none of these have been confirmed. As a self-taught man—he was a miner of St. Helens—he has in several instances recorded garden outcasts, evidently more from having no fixed ideas on the subject of nativity, than from any wish to misrepresent matters.

Since 1855 he has been lost sight of.

HARRISON, WILLIAM.

Contemporary with Mr. Skellon at the Liverpool Botanic Gardens, and with him one of the three prominent contributors to *Dick. Flo.*; but whilst the records of Mr. Skellon are principally for Cheshire, thus appearing prominent in the following pages, most of those of Mr. Harrison belong to Lancashire, and his name is not so often quoted as an authority in this Flora as his actual botanical merit and local work would suggest.

Mr. Harrison took much interest in Natural History, and as far as his leisure permitted occupied himself with it. His latest published records are in *Notabilia*.

HATCHER, W. H.

For a few years resided at Bromborough as manager to Price's Candleworks, and made some interesting finds in that part, notably *Habenaria albidula*.

Mr. H. was also very assiduous in trying to diffuse a taste for Natural History studies, amongst the men under his supervision.

HATTON, JAMES W.

In an account of an excursion of the Manchester Scientific Students' Association to Redes Mere, in "*Naturalist*," ii. p. 155, Mr. Hatton records *Hippuris*, *Calamagrostis Epigejos*, &c.

HIERN, WILLIAM P., M.A., F.L.S.

Topog. Bot.; and as having made the study of *Batrachian Ranunculi* a specialty, I have received his assistance in naming specimens, and have followed his nomenclature.

HIGGINS, Rev. HENRY H., M.A.

For nearly twenty years Mr. Higgins has taken a prominent place in connection with Natural History in Liverpool, and

has contributed, directly and indirectly, a great deal to local botany. See *Proc. Liv. L. and P. Soc.* 1857-58-59-61; *Proceedings of the Liverpool Naturalists' Field Club*, &c. [Died 1893.]

HOLLAND, Sir HENRY, F.R.S., &c.

From the work entitled "A General View of the Agriculture of Cheshire"—a compilation with a fair amount of original matter interspersed—I have extracted what relates to the county botany. This book was produced by Mr. Holland when under twenty years of age, and writing more than sixty years subsequently, as Sir Henry Holland, he says: "I can recollect the pleasure I had in exploring the country round Knutsford. . . . I made myself also a frequent guide to those wishing to obtain *Saxifraga Hirculus* (possibly Messrs. Lysons and Mr. Okell, *q.v.*). . . . Years afterwards, when I came to look for it at the well-known place, it had wholly disappeared."—*Recollections of a Past Life*, p. 7.

As an early friend of mine, always ready to assist me when I began the study of Natural History, I am glad to be able to introduce his name. [Died in 1873.]

HOLME, G.

Supplied upwards of thirty localities to *B. G.* "These were procured by Luke Howard, Esq., of London, through the medium of Mr. Ollive Sims of Stockport." Mr. Holme does not contribute to the *B. G.* list of any of the adjoining counties, and I am sorry that I have been unable to gather any information about him.

HOW, WILLIAM [1620-56].

It is quite possible that Dr. How botanised in Cheshire: at any rate, in *Phyt. Brit.* the record for *Wahlenbergia* at Woodhead rests on unspecified authority, and it is attributed to Dr. How personally in Milne and Gordon.

HOWARD, LUKE.

B. G. (see *Corydalis lutea*); *Conf. G. Holme*.

HOWARD, Mr.

Surgeon, Knutsford. About 1770 sent roots of *Saxifraga Hirculus* to Curtis, from the produce of which the figure (plate) in *Fl. Lond.* was drawn.

Mr. Howard *might* be the compiler of the "Old Herbal." The choice rests between him, who is a little too late, and Dr. Kingstone, who is a little too early. The terms in which the one dated record (1747) of *Botrychium* (*q.v.*) are conveyed, read like an old botanist speaking of a plant which he had gathered years ago in his youth.

HUNTER, J. A. (Nurseryman, Perry Hill, near Birmingham).

A contributor to *With. Arr.* ed. iii. and iv., where he records *Gentiana Pneumonanthe* and *Drosera anglica* from our Hundred 7.

HURST, H. A.

Two papers in *Proc. Manch. L. and P. Soc.*, upon the plants springing up on some newly-broken ground near Knutsford, supply a few localities, and are somewhat interesting to a Cheshire botanist. [Mr. Hurst died in 1882.]

IRVINE, ALEXANDER.

A couple of articles relating to Cheshire botany, which appeared anonymously in *Phyt. N.S.*, I have reason to believe were written by Mr. Irvine, the editor of that periodical. The first one (in vol. ii. p. 645) relates to New Brighton; the other (vol. iii. p. 233) to Over, and contains some acceptable localities. [Mr. Irvine died in 1873.]

KINGSLEY, Rev. CHARLES, M.A.

During his residence at Chester, Canon Kingsley urged forward the study of local natural history, and though I cannot definitely attach his name to any record, I doubt not that indirectly the flora has benefited through him. [Died in 1875.]

KINGSTONE, Dr.

The discoverer of *Saxifraga Hirculus* at Knutsford (1717), as recorded in *Ray. Syn.* ed. iii. Evidently known personally to, or a correspondent of, Dr. Richardson (*q.v.*)

Qy. Was Dr. Kingstone the compiler of the "Old Herbal"? See under Mr. Howard.

LEIGH, CHARLES, M.D. [1662-1704].

Author of "The Natural History of Lancashire, Cheshire, and the Peak in Derbyshire" (*q.v.*). His botanical qualification was evidently very limited, and it is a pity he did not get the assistance of some of his scientific contemporaries.

LIGHTFOOT, Rev. JOHN, M.A., F.R.S. [1735-88].

In August 1775 Mr. Lightfoot concluded an excursion through Wales with a search for some of the plants recorded in Ray and Blackstone, and of the result he has left a written account, a transcript of which is now in the Banksian Library at the British Museum. This manuscript I have quoted under *Silene Armeria*, *Melampyrum arvense*, &c.

LLOYD, JOHN.

Appears to have first detected *Nephrodium uliginosum* at Wybunbury. [Died 1870.]

LYSONS, DANIEL and SAMUEL. [Rev. Daniel Lysons died in 1834.]

Authors of "Magna Britannia." The *Dianthus deltoides* at West Kirby is a personal record of the authors, who also speak of having seen *Saxifraga Hirculus* at Knutsford.

MARRAT, FREDERICK PRICE.

It is necessary to confine my remarks to the phanerogamic portion of our flora, or I should have a long list of good work done by Mr. Marrat to detail. His local investigations in Cryptogamia are well known, and at the early part of his botanical career we find that he made some flowering plant communications to *Dick. Flo.* and *Supp. Dick. Flo.*

MARTIN, JOHN.

Buxt. G.; and before and along with Buxton one of the first to investigate the *Carices* of the Manchester district. [Mr. Martin, who was a hand-loom weaver, died in 1855.]

MAUGHAN, Mr.

Probably Mr. Robert Maughan of Edinburgh (who occasionally visited Liverpool), although the initial J. is used by Dr. Dickinson in one instance. (*Dick. Flo.*; *Sedum anglicum.*)

MURRAY, A.

Communicated Wirral stations for *Sambucus Ebulus*, *Littorella*, and *Botrychium* to *Hall, Flo.* At that time he was connected with the Liverpool Botanic Gardens.

NEEDHAM, Dr. WALTER.

It is on Dr. Needham's authority that *Acorus* is first recorded for Cheshire (1870).

NEWMAN, EDWARD, F.L.S.

Mr. Newman appears to have botanised in Cheshire. He speaks of the occurrence of *Asplenium marinum* and *Equisetum variegatum* (arenarium) on personal authority. [Died 1876.]

OKELL, Mr. (of Chester).

Contributed to *Magna Britannia* a capital list of over thirty Cheshire localities, many of which produce the plant named at the present time, e.g. *Statice auriculæfolia* at Hilbre, *Bartsia viscosa* at Hoylake, &c. Mr. Okell also communicated Knutsford *Saxifraga Hirculus* to Dr. J. E. Smith in 1801.

PEERS, JOHN.

A few localities for Hundred 2 in *Flo. Liv.*, and Mr. Peers drew up the "List of Less Common Plants within twelve miles of Warrington," contributed by "The Warrington Field Naturalists' Society" to *Phyt. N.S.* in 1863.

PENNANT, THOMAS, F.R.S.

This well-known antiquarian and natural historian records *Bartsia viscosa* from near Parkgate in *B. G.* [Died 1798.]

PERCIVAL, JAMES, Jun.

Bux. G. ed. ii.; *Gr. Flo.* (*Dipsacus pilosus*, *Habenaria viridis*, *Listera Nidus-avis*, &c.)

POTTS, Miss E. (of Chester).

This lady contributed to *Hall, Flo.* some thirty of the most interesting Cheshire records in that Flora, including such plants as *Silene anglica*, *Trigonella*, *Trifolium subterraneum*, *Onoropodum*, *Zannichellia*, *Poa rigida*, *Lycopodium selaginoides*, &c.

She stands pre-eminently the best lady botanist whose records are included in the present Flora.

RAY, JOHN, M.A., F.R.S. [1627-1705.]

Cheshire was honoured with two visits by this celebrated naturalist: the first in August 1658, when he was at Northwich and Chester, and the second in May 1662, when, in company with Mr. Willoughby, he visited Nantwich, Beeston, and Chester. Of Beeston he says, "We could not find any of those plants which in *Phyt. Brit.* (a slip for "Gerarde's Herball") are mentioned to grow wild there, and suppose none such are to be found."

His personal records for the county are *Diploxix tenuifolia*, *Cicuta virosa*, and *Andromeda*.

RICHARDSON, RICHARD, M.D., F.R.S. (of Bingley, Yorkshire).

A good botanist, and a man whose name deservedly occupies a prominent place in the history of English botany during the half-century up to 1740.

His visits to Cheshire were made in passing on to Wales, and his name will be found in connection with *Silene Armeria*, *Galeopsis versicolor*, *Saxifraga Hirculus*, and *Acorus Calamus*. He was at Holford in July 1711, and at Knutsford (probably) in 1718. [Died 1741.]

ROBINSON, JAMES F. (Frodsham).

Records anterior to 1868 are quoted where definite and probable, and some later ones when substantiated through other sources. The recent ones are declined.

ROBSON, EDWARD (of Darlington). [1763-1813.]

With. Arr. ed. vi. (*Helosciadium inundatum*).

ROGERS, THOMAS (of Manchester).

Phyt. N.S. vi. pp. 246-250. Plants found near Knutsford and Cotterill Clough.

SANSOM, THOMAS.

Dick. Flo. (*Viola*, *Ran. parviflorus*, *Hyoscyamus*, *Linaria Elatine*, and six other records); *Flo. Liv.*; *Topog. Bot.* [Died 1862.]

SHEPHERD, HENRY.

Succeeded his uncle, Mr. John Shepherd, in the curatorship of the Liverpool Botanic Gardens, and contributed fourteen Cheshire records to *Hall, Flo.*, besides rendering other assistance suitably acknowledged in the preface to that book. He appears to have been the last botanist (if not the only one) who has gathered *Zostera* on the Cheshire coast.

Mr. Shepherd's knowledge lay on the horticultural side of botany, and he is spoken of as the first in this country who practically grew ferns from their spores (*Vide Trans. Hort. Soc.* iii. (1820), p. 338). He died about 1854.

SHEPHERD, JOHN.

The first curator of the Liverpool Botanic Gardens, and brought into contact with Sir J. E. Smith, Mr. Roscoe, and numerous botanists at the early part of the century. In his capacity as curator of these gardens, and as a distributor of plants, he received high commendation both from our own and colonial authorities, and from the conservators of like establishments in Russia and elsewhere. His local records consist of a few contributed to the fifth edition of *Withering*, together with some based upon specimens contained in his herbarium, and dating from 1801-14, which are included by Hall in his *Flora*. Those for Cheshire are *Dianthus deltoides*, *Hypericum dubium*, *Silene quinquervulnra*, *Verbena*, *Ruppia*, and *Chara hispida*. He died [in 1836] shortly after the removal of the Botanic Garden to its present site; and his herbarium, first ineffectually offered at auction, was subsequently purchased by the Garden authorities, where it is now preserved.

SHILLITO, JAMES.

The non-mention of this name in the preface to *Dick. Flo.*, whilst there is a direct allusion to him under *Orchis pyramidalis*, and several localities inserted on the authority of "J. S." (which I presume apply to Mr. Shillito), fixes the date for the commencement of his local contributions to 1850. Between that year and the appearance of *Supp. Dick. Flo.* in 1855, he did some good work. This is testified by the appearance of fourteen, for the most part satisfactory, records in the latter, including *Medicago maculata* and *Sclerochloa loliacea*, both new to the county. These two plants were supposed to be lost shortly after his discovery of them at Parkgate, but have been refound there in fair quantity. *Crepis paludosa*, *Allium vineale* (Hoylake), and *Alopecurus bulbosus* (Woodside), on Mr. S.'s authority, require confirmation. Mr. Shillito, upon quitting the Botanic Gardens, went to Australia. A portion of his herbarium is at Prestwich (*sic* Mr. Grindon), and a portion, I believe, remains in Liverpool.

SKELLON, WILLIAM.

Seems to have devoted his leisure to practically working up local botany during the time he was employed at the Liverpool

Botanic Gardens, and as such was a superior contemporary of Mr. W. Harrison (*q.v.*).

In consequence of Mr. Skellon's investigations resting chiefly on the Cheshire side, we find that he contributed between fifty and sixty special localities for rare plants to *Dick. Flo.*, all situated within the Hundred of Wirral. Amongst these we have *Erythræa pulchella* first entered for the county, and one of the earliest records for *Sison*.

He probably quitted this country for Australia about the time of the publication of *Dick. Flo.*, and I imagine the period of his work was 1848-51.

His name has been persistently misspelt Skelthorne both in *Dick. Flo.* and *Flo. Liv.*

SLACK, R.

Botanised in the neighbourhood of Eastham and Sutton about 1837-39, and contributed nine localities to *Hall, Flo.* Of these *Dianthus Armeria* (apparently not since noticed in the county) and *Habenaria bifolia* are the best.

SMITH, Rev. GERARD EDWARDS.

A well-known botanist, who discovered *Calamagrostis stricta* at Oakmere in 1846. About the same time he also found other interesting plants in the same district, *e.g. Sagina subulata*. [Died in 1881.]

SMITH, HENRY ECROYD.

See *Proc. Hist. Soc.* 1861 and 1866 for particulars of Mr. Smith's botanical contributions, which, it must be noted, form only a subsidiary addendum to his contributions on local archaeological and ornithological, &c., subjects. He appears to have been the first to notice *Veronica Buxbaumii* in Wirral. His records of *Geum rivale*, and one or two other plants, require confirmation. [Died in 1888.]

SPARK, Mr.

Garner N. H. Staff. (*Utricularia minor* and *Drosera anglica* from Wyubbury).

STONE, EDWARD.

Gr. Flo. (*Lathræa* and *Poa nemoralis* from Gatley Carrs).

STONEHOUSE, Mr. [Fl. 1650.]

Lived at Darfield, in Yorkshire, and communicated to *How. Phyt. Brit.* the frequency in Cheshire of what we now know as *Prunus Avium*. Some of his other notes to the same work also bear upon Cheshire botany.

It would be well if some of our modern botanists would exercise the judgment and caution when making botanical records of which Mr. S. more than two centuries ago offers an example. Speaking of a certain doubtful plant, he

writes, "which, though farre from any house, I believe it first came out of a garden with some dung." It would not be difficult to cite instances in recent times where, under similar circumstances, the record would have run, "found far from any house, with every appearance of being wild."

THOMPSON, SYLVANUS.

Contributed to Mr. Newman's county list of ferns in *Phyt.* vol. i., and found *Trifolium resupinatum* at New Brighton as far back as 1847. [Died 1881.]

TINKER, JETHRO.

A name well known as one of our working-class naturalists of the best type. His Cheshire botanical collectings were chiefly in the neighbourhood of Staleybridge, and besides the records placed to his authority in *Buxt. G.* I am enabled to add some others obtained direct from his herbarium, which Messrs. Baker and Webb had the opportunity of hurriedly glancing through. This herbarium, after being at the house of Mr. William Worthington, of Mottram Road, Staleybridge, is now at the Museum in Stamford Park.

In Stamford Park, which lies between Ashton and Staleybridge, there is a handsome monument to Mr. Tinker, bearing inscriptions, "Our local Linnaeus," "Born Sept. 25, 1788," "Died March 10, 1871," "A field naturalist from youth to old age."

TUDOR, RICHARD (Booth).

Hall, Flo. Four localities on the Cheshire side, including *Lepidium latifolium* and *Onopordum*, being the first definite record for the former, although "Chester" is entered for it seven years previously in Mr. Watson's "Outlines."

TURNER, DAWSON, F.R.S.

In *B. G.* we find a personal record under *Ran. Lingua*, and, as already mentioned (see Mr. Aikin), Mr. Turner was in the habit of visiting Warrington. [Died 1858.]

VERNON, WILLIAM. [*Fl. circa* 1695.]

In *Blackst. Spec.* there are twelve Cheshire records on the authority of Mr. Vernon, all from the neighbourhood of Whitechurch and Beeston, and, with the exception of *Melampyrum arvense*, they may be considered correct. Mr. Vernon was a Fellow of Peterhouse College, Cambridge (M.A. 1692), and he went a voyage to America for the sole purpose of botany. He supplied Mr. Ray with many plants from Maryland. Amongst his correspondents were Richardson, Sherard, Buddle, and other notable botanists of the early part of the eighteenth century.

WARING, Rev. RICHARD HILL.

On p. cxii. I have remarked upon the valuable letter communicated by Mr. Waring to vol. lxi. of the *Phil. Trans.*, a study of which will amply prove that he was a very advanced botanist. It is now only necessary to mention that his connection with the county arose from his marriage (May 25, 1760) with the daughter and sole heiress of Sir George Wynne of Leeswood and Ince. He thus became possessed of the Ince property, to which neighbourhood his Cheshire records mostly belong. [Died 1794.]

WALMESLEY, Mrs.

See *Mentha citrata*.

WILSON, E. S.

Phyt. ii. 378 and 550. First recorder of *Ranunculus Lenormandi* for the county, and the earliest finder of *Carex limosa*, *C. involuta*, and other good plants of the Congleton neighbourhood.

WILSON, WILLIAM.

For fifty years Cheshire botany received a share of the high talents of Mr. Wilson, and though (in late years) he was chiefly concerned with the cryptogamia, I have the pleasure of entering him as the first recorder of *Cladium*, *Carex filiformis*, *C. axillaris*, &c., to the county Flora. His earliest communications were to Sir J. E. Smith and the late Sir W. J. Hooker, and in the herbarium of the latter at Kew are Mersey plants collected soon after 1820. From the time of *Hook. Br. Fl.* onwards he contributed papers and notices to the different periodicals and standard works of the day.

Mr. Wilson's labours may be characterised as evidencing the most painstaking investigation, combined with accurate discrimination and determination.

Unfortunately, in a copy of Galpine's "Compend" (now in Bot. Depart. of Brit. Mus.) used by him to mark the plants found around Warrington, in radii of 1, 2, 3, 4, 5, 10, 20, and 30 miles, he has not distinguished Lancashire from Cheshire, thus rendering the list available for negative evidence only. I have, however, found it of service in this respect, as also an annotated copy of Mr. Watson's "Outlines," now belonging to Mr. B. D. Jackson, and kindly lent by him.

Mr. Wilson died April 3, 1871, aged 72.

WILLIAMSON, ISAAC, Stockport.

Gr. Flo. Fourteen localities, comprising some fair plants for Hundred 1, e.g. *Vicia sylvatica*, *Parnassia*, *Convolvulus arvensis*, &c.

Mr. Williamson died about 1860.

WINDSOR, JOHN, M.D., F.L.S.

Topog. Bot. and *E. C. Rep.* (*Alopecurus bulbosus* and *Mentha gentilis*.) Incidentally there is a Cheshire record of *Hieracium tridentatum* in his posthumous "Flora Cravoniensis."

Dr. Windsor died September 1, 1868, aged 81.

WOOD, JOHN B., M.D.

Dr. Wood is referred to on p. x. of the Memoir prefacing *Buxt. G.* as working at local botany in 1839, and in the following year the "Flora Mancuniensis" (*q.v.*) was issued. His communications to the "Phytologist" have already been spoken of, and we find his name the authority for a few stations in *Dick. Flo.* and *Supp.* His later botanical investigations have been in connection with Cryptogamia.

[Dr. Wood died in 1890.]

WOOD, Rev. WILLIAM, F.L.S.

B. G. A good botanist, who happens to have a couple of records for our county in *B. G.*, although one (*Verbascum Lych-nitis*) should properly be placed to Denbigh. He contributed to the Lists of the adjoining counties of Yorks., Derby, Stafford, and Salop.

Mr. Wood was the author of "Topographia," &c., and of the botanical articles in Rees' "Cyclopædia" up to the middle of letter C., from which point they were continued by Sir J. E. Smith.

He was successor to Dr. Priestley at Mill Hill Chapel, Leeds, and died somewhat suddenly in 1808.

[In writing the above list, it was the author's intention, as the title shows, to deal mainly with Cheshire Botany *in the Past*. The names of a few other observers, who have earned the right to special mention in this connection, are appended herewith. In drawing up this list, the "Biographical Index of British and Irish Botanists," of Messrs. Britten and Boulger, has been consulted by the Editor.

BAILLIE, E. J., Mr.

Did good work, chiefly in connection with the Flora of Chester (Hundred 5). See "The City Flora" in *Proceedings of the Chester Society of Natural Science* for 1878. Died 1897.

BAKER, J. G., F.R.S.

Procured many records for the Macclesfield Hundred, and examined and reported to the author upon the contents of Jethro Tinker's herbarium. Mr. Baker has recently retired from the keepership of the herbarium and library at the Royal Gardens, Kew.

BICKHAM, SPENCER, Mr.

Author, *inter alia*, of a paper in *Proc. Manch. L. and P. Soc.* vol. viii. See also under *Myosurus minimus*, &c.

BROWN, ROBERT, Mr.

Some of the records for the Wirral Hundred are due to this observer (see *App. Flo. Liv.*), as also some from other parts of the county.

DOD, A. H. WOLLEY, Capt., R.A.

Communicated to the editor a large number of localities, relating chiefly to Hundred 5, which Hundred, but for such assistance, would not, in the case of many species, have received mention in this Flora.

FISHER, H. S., Mr.

Joint-author with Mr. Webb of a list of additions to the Flora in *Proc. Liv. L. and P. Soc.* vol. xv. Has written also on plants introduced into the Liverpool district. See *Notabilia*, in *Proc. Hist. Soc.* vi. N.S. p. 254.

GRINDON, LEO HARTLEY, Mr.

Author of the "Manchester Flora," so frequently quoted in the following pages.

HOLLAND, ROBERT, Mr.

Contributed Cestrian localities to *Gr. Flo.*, &c., and communicated to the author many records relating to the Bucklow Hundred. Conjointly with Mr. James Britten, Mr. Holland wrote the "Dictionary of English Plant Names," published by the English Dialect Society. He died in 1893.

HUNT, G. E., Mr.

Assisted in obtaining records for *Gr. Flo.* See also *Proc. Manch. L. and P. Soc.* vol. x. The contents of the valuable herbarium formed by this botanist are often alluded to in the present work. Died in 1873.

LEWIS, J. HARBORD, Mr.

Has published many records relating to the Wirral Hundred in *E. C. Rep.*, and elsewhere; some of them in conjunction with Mr. Webb.

MELVILL, J. COSMO, Mr.

Several localities in the Eddisbury Hundred are given on Mr. Melvill's authority.

NEWBOLD, W. W., Rev.

Obtained records for the author, either alone, or, more often, in company with Mr. Webb, chiefly for Hundreds 1 and 5. Died in 1886.

SIDEBOTHAM, JOSEPH, Mr.

Collected Cestrian localities for *Buxt. G.* and *Gr. Flo.* See also *Phyt.* vol. i., *Newman*, and *Lowe, Brit. Grasses.* Was one of the founders of the Manchester Field Naturalists' Society. Mr. Sidebotham, who was a man of wide scientific attainments, died in 1885.

WATSON, H. C., Mr.

Was the Father of British Topographical Botany, and author of "Cybele Britannica," "Outlines of the Geographical Distribution of British Plants," and other valuable works. Mr. Watson rendered much assistance to the author of this work in clearing up doubtful points. He died in 1881.

WEBB, F. M., Mr.

Obtained many records for *Flo. Liv.*, &c. During the early seventies, Mr. Webb was engaged by the author to assist him in elucidating the Cheshire Flora, and to the energy and success with which he applied himself to this task the following pages bear eloquent testimony. Mr. Webb was Curator of the herbarium of the Edinburgh Botanic Garden. He died in 1880, at the early age of thirty-nine years.

LIST OF BOOKS, PERIODICALS, AND MANUSCRIPTS REFERRED TO AND CONSULTED.

App. Flo. Liv. An Appendix or Supplement to the Flora of Liverpool, 1873.

Bab. Man. . Manual of British Botany, containing the Flowering Plants and Ferns arranged according to the Natural Orders. By Charles Cardale Babington, M.A., F.R.S. London (Van Voorst). Ed. i. 1843; ed. ii. 1847; ed. iii. 1851; ed. iv. 1856; ed. v. 1862; ed. vi. 1867; ed. vii. 1874 [ed. viii. 1881].

A few plants are specially noted from Cheshire, e.g. *Carex involuta*, and this work has been used by several of my contributors for the determination of species.

Bab. Rubi . The British Rubi, an attempt to discriminate the species of Rubus known to inhabit the British Isles. By Charles Cardale Babington, M.A., F.R.S. London (Van Voorst), 1869.

Contains some Cheshire localities, mostly derived from specimens communicated to the author by the late Mr. G. E. Hunt.

Baker, Roses. A Monograph of the British Roses. By J. G. Baker, F.L.S.

Read before the Linnæan Society, March 18, 1869, and published in their Journal (Jour. Linn. Soc. Bot., vol. xi.).

Apart from being the standard of nomenclature adopted by me, various Cheshire localities are therein authenticated.

Bart. Br. Bot. British Phænogamous Botany. By William Baxter. 6 vols. Oxford. Vol. i. 1834; vol. ii. 1835; vol. iii. 1837; vol. iv. 1839; vol. v. 1840; vol. vi. 1843.

Most of the Cheshire stations given in this work (numbering nearly seventy) have been traced to their sources. A few stand as original, and are quoted.

- Bentham*. . . Handbook of the British Flora. By George Bentham, F.R.S. London (L. Reeve). Ed. i. 1856; ed. ii. 1866. [This work is now in its sixth edition.] An illustrated edition in 2 vols., 1865.

The idea of a binomial system as applied to the English nomenclature has been adopted from this book, and many of the English names copied.

- B. G.* . . . The Botanist's Guide through England and Wales. By Dawson Turner, F.R.S., and Lewis Weston Dillwyn, F.R.S. 2 vols. London (Phillips & Fardon), 1805.

The Cheshire list occupies pp. 109-123 of vol. i., and the bulk is contributed by Mr. Bradbury and Mr. George Holme (*q.v.*).

- Blackst. Spec.* Specimen Botanicum quo Plantarum plurium rariorum Angliæ indigenarum loci natales illustrantur. Authore J. Blackstone, Pharm. Lond. Londini (S. Birt and J. Whiston), 1746.

Mr. Vernon contributes eleven Cheshire records, which will be found commented upon under their respective species.

- Bot. Gaz.* . . The Botanical Gazette. Edited by A. Henfrey, F.L.S. 3 vols. London, 1849-51.

Quoted under *Sagina ciliata*, &c.

- Buxt. G.* . . A Botanical Guide to the Flowering Plants, Ferns, Mosses and Algae found indigenous within sixteen miles of Manchester, . . . by Richard Buxton; together with a sketch of the author's life, and remarks on the geology of the district. London (Longman). Manchester (Abel Heywood), 1849. Ed. ii. "with corrections and additions," and the range extended to eighteen miles. London (Simpkin, Marshall & Co.), 1859.

Mr. Buxton had been a student of local botany for more than forty years previous to the publication of his "Guide," and for a greater portion of that period he had been in communication with the Manchester working botanists. The result is a very good local Flora, with numerous localities and original observations.

The number of species of Flowering Plants, Ferns, and Fern Allies included in the "Guide" is about 750, of which number, from the general statements of commonness, or from special localities inserted, we may reckon 660 to Cheshire. The stations are not separated to their counties.

The arrangement is Linnæan, with authorities for the names, and references to the figures of *E. B.*

The additions made in the second edition are few in number, and do not bear the good stamp of the original book.

Comp. Cyb. Brit. Compendium of the Cybele Britannica or British Plants in their Geographical Relations. By Hewett Cottrell Watson. In 3 Parts—Part i. 1868; Part ii. 1869; Part iii. 1870. Thames Ditton. Printed for private distribution. Published in 1 vol. London (Longmans), 1870.

Comp. Cyb. Brit. Supp. Supplement to the Compendium of the Cybele Britannica, showing the distribution of British Plants through the thirty-eight Sub-Provinces (being also a Second Supplement to Cybele Britannica). By Hewett Cottrell Watson. Thames Ditton. Printed for private distribution only, 1872.

Crosfield Cal. A Calendar of Flora composed during the year 1809 at Warrington. By George Crosfield. Warrington, 1810.

This tract, by the use of asterisks and daggers, professes to give a list of native plants growing near Warrington. It is a very poor performance, and combined with the Frodsham list in the "Phytologist," and Robinson's "Southport," quoted by Dr. Dickinson, Liverpool could boast within its Flora limit such plants as *Linnaea borealis*, *Primula farinosa*, *Phleum asperum*, *Geranium sylvaticum*, *Ranunculus gramineus*, and *Turritis labra*—a sample two from each!

Cyb. Brit. Cybele Britannica; or British Plants and their Geographical Relations. By Hewett Cottrell Watson. 4 vols. London (Longman & Co.). Vol. i. 1847; vol. ii. 1849; vol. iii. 1852; vol. iv. 1859.

This and the other valuable botanical works by the same author have been in constant reference and are continually quoted.

Supp. Cyb. Brit. The First Part of a Supplement to the Cybele Britannica, to be continued occasionally as a Record of progressive knowledge concerning the Distribution of Plants in Britain. By Hewett Cottrell Watson. London. Printed for private distribution, 1860.

Dick. Flo. The Flora of Liverpool. By Joseph Dickinson, M.A., M.D., F.L.S. Printed in vol. vi. of the Proceedings of the Literary and Philosophical Society of Liverpool, and separately published in 1851.

London (Van Voorst; Whittaker & Co.). Liverpool (Deighton & Laughton).

Hall's Flora "serves as the basis of the present work," which has as a limit a circuit of fifteen miles around Liverpool, thus including the whole of our Hundred 4, and portions of 3 and 2.

Dr. Dickinson speaks of having obtained considerable information from the prize collections sent in to him as Lecturer on Botany to the Liverpool School of Medicine, and he had valuable assistance from Messrs. Wm. Harrison, Wm. Skellon, &c.

In vol. ix. of the above-named Proceedings an extensive Supplement was issued, to which additions have been made in subsequent volumes.

The arrangement adopted is that of *Hook. Br. Fl.* ed. vi.

- E. B.* . . . English Botany; or Coloured Figures of British Plants. By James Edward Smith, M.D.; the figures by James Sowerby. 36 vols. London (White), 1790-1814.

A few Cheshire stations are repeated, *e.g. Saxifraga Hirculus, Mespilus, Mentha odorata*.

- E. B. Supp.* . Supplement to the above. London (Longman). Vol. i. 1831; vol. ii. 1834; vol. iii. 1843; vol. iv. 1849; vol. v. (6 Nos.), 1865.

A few Cheshire notices are included, *e.g. Polygala oxyptera, Carex Boenninghausiana*. (See also *Bupleurum falcatum*.)

Note.—The second edition of English Botany, like the second Napoleon, is practically unknown.

- E. C. Rep.* . Thirsk Natural History Society and Botanical
(and year) Exchange Club.

Curator's annual report for 1859, 1860, 1861, 1862, 1863, 1864, 1865.

After the last-named date the Club was transferred to London, and became

The London Botanical Exchange Club, for which the Curator's reports are for 1866-67, 1868, 1869, 1870, 1871, 1872-74 [and onward until 1895].

These Reports contain many items of local botany based upon specimens sent to the Curator, and they are frequently quoted.

- Egerton* . . Our Holiday; or The Cruise of the *Julia*. Lecture delivered at the Chester Society of Natural Science, November 19, 1874. By Sir Philip de Malpas Grey Egerton, M.D., F.R.S., &c. Reprinted by Stephen Austin & Son, Hertford.

Contains some plant localities about Oulton.

- Fl. Crav.* . Flora Cravoniensis; or A Flora of the Vicinity of Settle, in Craven, Yorkshire. By John Windsor, F.R.C.S., F.L.S. Printed for private distribution. Manchester, 1873.

This posthumous work by Mr. Windsor is quoted for Cheshire under *Hieracium tridentatum*.

- Fl. Hudd.* . Huddersfield: its History and Natural History. By Charles P. Hobkirk. Huddersfield. Ed. i. 1859; ed. ii. 1868.

The botanical list contains 504 species of Flowering Plants and Ferns (including some Aliens). This list has been used for comparison with the ascertained Flora of the N.E. portion of our Hundred 1, and the absences in many cases of "common" species are identical.

- Fl. Liv.* . The Flora of Liverpool: A List of Indigenous Flowering Plants and Ferns growing within fifteen miles of the Liverpool Exchange and two miles of Southport. Published by the Liverpool Naturalists' Field Club, and sold at their Depository by Mr. Ker, 6 Basnett Street. Liverpool, 1872.

This Flora is in its turn based upon that of Dr. Dickinson, as his was upon that of Mr. Hall. In the present work the object has been to bring into focus all the material contained in the two former, with that included in the Supplement and Additions to Dr. Dickinson's book, to add thereto information subsequently acquired, and to arrange the whole in conformity with *Syme, E. B.*

Up to Labiatae the work was published during 1867-68 in monthly numbers of the *L. N. J.* (*q.v.*). The remainder did not appear until 1872, when the whole was issued in one volume as above.

It is worth while reminding the reader that the Preface must be read as applying to January 1867.

- Fl. Lond.* . Flora Londinensis; or Plates and Descriptions of such Plants as grow wild in the Environs of London, &c. By William Curtis, Demonstrator of Botany to the Company of Apothecaries London. Printed for and sold by the author 1777-1787.

The plate of *Saxifraga Hirculus* is drawn from a Cheshire specimen. See extract.

- Fl. Midd.* . Flora of Middlesex: A Topographical and Historical Account of the Plants found in the County; with

sketches of its Physical Geography and Climate, and of the progress of Middlesex Botany during the last three centuries. By Henry Trimen, M.B., F.L.S., and William T. Thiselton Dyer, B.A. London, 1869.

Various suggestions of arrangement and typography are derived from this excellent book.

- Fl. Scot.* . . . *Flora Scotica; or A Systematic Arrangement on the Linnæan Method of the Native Plants of Scotland and the Hebrides.* By John Lightfoot, A.M. 2 vols. London (White), 1777.

Lightfoot determined the Knutsford *Saxifraga* to be *S. Hirculus* of Linnæus. It had previously been called *S. autumnalis*. See vol. i. p. 223.

- Francis* . . . *An Analysis of the British Ferns and their Allies.* By G. W. Francis. London, 1837.

This little work has priority in the publication of several Cheshire localities, and I have accordingly quoted it.

- Garner, N. H. Staff.* *The Natural History of the County of Stafford; comprising its Geology, Zoology, Botany, and Meteorology, &c.* By Robert Garner, F.L.S. London (Van Voorst), 1844. Supplement, 1860.

Contains some interesting Wybunbury records by Mr. G. Pinder and Mr. Spark, and some from the neighbourhood of Alsager.

- Ger.* . . . *The Herball; or Generall Historie of Plantes.* Gathered by John Gerarde, of London, Master in Chirurgerie. Imprinted at London by John Norton, 1597.

Upwards of two dozen references are made to Cheshire in this work; and where these are of the slightest interest, I have brought them forward into this Flora. Some of the evident errors made in this work have been repeated up to the present day.

- Ger. Em.* . . . *The Herball, &c.,* by John Gerarde; very much enlarged and amended by Thomas Johnson. London (Norton), 1633.

As this is the "Gerarde" most commonly quoted, I have made my references to it as well as to the original work. Johnson does not add any Cheshire references.

- Gibb. Camd. Brit.* *Camden's Britannia, newly translated into English, with large Additions and Improvements.* Published by Edmund Gibson, of Queen's College in Oxford. London, 1695.

The Cheshire Plant List, p. 571, consists of *Cerasus arium* only.

Gough Camd. Brit. [Camden, William] *Britannia; or A Chorographical Description of England, Scotland, and Ireland.* Translated from the edition published by the author in 1607; enlarged by the latest discoveries. By Richard Gough, F.A. and R.SS. 3 vols. London, 1789.

In this work the Cheshire List (vol. ii. p. 440) amounts to nineteen records. These are extracted from Blackstone and Hudson.

Gr. Flo. . . . The Manchester Flora: A Descriptive List of Plants growing wild within eighteen miles of Manchester. By Leo Hartley Grindon. London (William White), 1859.

"This book is written for persons . . . who have not sufficient leisure to study Botany minutely."

In compiling the "locality" portion, Mr. Grindon had the assistance of the late Mr. G. E. Hunt, and some other botanists of the district whose names do not appear in the older Floras, and the total number of species included is about the same as in *Buxt. G.*; but the list is open to the same objection, namely, that a good many are assuredly not "indigenous" or "wild" in the district. The arrangement is on no recognised system.

Hall, Flo. . . . A Flora of Liverpool, by T. B. Hall.

Published under the superintendence of the Council of the Natural History Society. London (Whittaker & Co.). [Not dated, but issued in 1839.]

Mr. Hall does not profess to be an experienced botanist, but he has compiled his book with care and good judgment. It is, moreover, arranged according to the Natural system. A good map of the district adds to the value of the book, and a set of Meteorological Tables and Observations for the year 1838, by Mr. Wilson Armistead, forms an Appendix.

Hiern, Mon. On the Forms and Distribution over the World of the Batrachium Section of *Ranunculus*. By W. P. Hiern, M.A.

Published in *J. of B.*, vol. ix. p. 43 (1871), and subsequently privately distributed by the author.

Holland . . . General View of the Agriculture of Cheshire, with observations drawn up for the consideration of the Board of Agriculture and internal improve-

ment. By Henry Holland, member of the Royal Medical Society of Edinburgh. London, 1808.

On pp. 177-178 some plant localities are specified, including *Saxifraga Hirculus*; and *Berberis vulgaris* is incidentally mentioned on p. 35.

See p. 7 of "Recollections of a Past Life," by Sir Henry Holland, F.R.S., &c. London, 1872.

- Hook. Br. Fl.* The British Flora. By Sir W. Jackson Hooker. London. Ed. i. 1830; ed. ii. 1831; ed. iii. 1835; ed. iv. 1838; ed. v. (same as ed. iv. but arranged on the Natural System), 1842. And by G. A. Walker-Arnott. Ed. vi. 1850; ed. vii. 1855; ed. viii. 1860.

The early editions contain some original Cheshire records contributed by Mr. W. Wilson and Mr. J. E. Bowman. The "Flora of Liverpool," by Dr. Dickinson, is arranged in accordance with ed. vi., and the "Flora Mancuniensis" with ed. iv.

- How, Phyt. Brit.* Phytologia Britannica, natales exhibens indigenarum stirpium sponte emergentium. Londini (typ. Cotes), 1650. Anonymus. [By William How, M.D.].

Contains some original Cheshire records — notably the "Merry" Cherry.

- Hudson, Flo.* Gulielmi Hudsoni, F.R.S., &c. Flora Anglica, exhibens Plantas per Regnum Angliæ sponte crescentes distributas secundum systema sexuale. Londini (J. Nourse), 1762. Ed. ii. 2 vols. 1778.

There is only one original Cestrian record in this work. The other county references are brought forward from Ray and Blackstone.

- Hull . . .* The British Flora, or A Linnæan Arrangement of British Plants, &c. In two parts. By John Hull, M.D. Manchester (typ. Dean), 1799. Ed. ii. 2 vols. 1808.

Quoted under *Pinguicula vulgaris*.

- J. of B. . . .* See under *Seem. J. of B.*, and *Trim. J. of B.*

- L. C. . . .* The London Catalogue of British Plants. London. Ed. i. 1844; ed. ii. 1848; ed. iii. 1850; ed. iv. 1853; ed. v. 1857; ed. vi. 1867; ed. vii. 1874. [Ed. viii. 1886, reissued with corrections in 1890; ed. ix. 1895.]

- Leigh . . .* The Natural History of Lancashire, Cheshire, and the Peak in Derbyshire, &c. By Charles Leigh, Doctor of Physick. Oxford (Printed for the Author), 1700.

The Natural History of this book is very poor,

and indeed was so accounted at the time of publication. In chapter v. an absurd list of species stated to grow on the coast is given with the remark, "These plants may be counted specifics for the distempers incident to those coasts." The *Lady-Slipper* is mentioned as growing "in several of our woods."

The only note I have found it worth while to extract will be met with under *Nymphaea alba*.

Leight. Fl. Shrop. A Flora of Shropshire. By W. A. Leighton, B.A. London (Van Voorst), 1841.

Trespases into Cheshire for a few localities about Marbury.

L. N. J. . . . The Liverpool Naturalist's Journal, published in connection with the Liverpool Naturalist's Field Club.

(I have no information about contents, &c. Mr. Higgins gives some particulars in his *résumé* of the various works published in connection with Liverpool local Natural History.

Likewise I have no particulars of the Liverpool Naturalist's Scrap Book, which contained a considerable amount of botanical information.—*F. M. Webb*.)

Lond. J. of B. The London Journal of Botany, &c. By Sir W. J. Hooker, K.H., D.C.L. 7 vols. London. 1842–1848.

Referred to under *Calamagrostis stricta*.

Lowe, Ferns. Our Native Ferns. With coloured illustrations. By Ed. Jos. Lowe. London (Groombridge), 1865.

Quotes some Cheshire stations; chiefly reproductions.

Lowe, Brit. Gr. A Natural History of British Grasses. With coloured illustrations. By Edward Joseph Lowe. London (Groombridge), 1858.

Many of the plates are taken from Cheshire specimens communicated by Mr. J. Sidebotham, and I quote the stations recorded.

Lys. M. Brit. Magna Britannia: being a Concise Topographical Account of the several counties of Great Britain. By Rev. Daniel Lysons, A.M., F.R.S., &c., and Saml. Lysons.

Vol. ii. part ii. contains The County Palatine of Chester. London. 1810.

This work contains a very good original list contributed by Mr. Okell (*q.v.*) of county plants found chiefly in the neighbourhood of Chester.

Mag. Nat. Hist. The Magazine of Natural History. Conducted by J. C. Loudon. 9 vols. 1829–36.

New Series. Conducted by E. Charlesworth. 4 vols. 1837–40.

Quoted under *Paris quadrifolia*, &c.

M. and G. . . Indigenous Botany; or Habitations of English Plants, &c. By Colin Milne, LL.D., and Alexander Gordon. Vol. i. (all published). London. 1793.
Contains a Cheshire station for *Wahlenbergia hederacea* as recorded in How's *Phyt. Brit.*

Merrett . . Pinax Rerum Naturalium Britannicarum, &c. Auth. Christophero Merrett. Londini (typ. Warren & Roycroft). 1666 and 1667.
Contains two Cheshire records.

Moore, N. P. Octavo Nature-printed British Ferns. By Thomas Moore. 2 vols. London (Bradbury and Evans), 1859.

Most of the records I have from earlier sources. A few are original and are quoted. The Folio edition of 1855 is quoted for *Polypodium cambricum*.

Nat. (and year) The Naturalist. Illustrative of the Animal, Vegetable, and Mineral Kingdoms. Conducted by B. Maund and W. Hall. London (Whitaker & Co.). Vol. i. 1837; vol. ii.-v. (edited by N. Wood). April 1837-June 1839.

In vol. ii. pp. 246-251, Mr. T. B. Hall published "A list of plants collected near Liverpool in the summer of 1836," which paper he refers to on p. 86 of his "Flora of Liverpool" under *Luzula pilosa*. Several other papers by this gentleman, some of which relate to local botany, appear in the succeeding volumes of this periodical.

Note.—The series of a subsequent periodical, called the "Naturalist," under the editorship of Messrs. Morris, does not contain anything relating to Cheshire botany.

Nat. (and year) The Naturalist: Journal of the West Riding Consolidated Naturalists' Society, and Manual of Exchange in all departments of Natural History. 48 numbers. Vol. i. 24 Nos., May 1864-April 1865; vol. ii. 24 Nos., May 1865-April 1866. Continued as The Naturalist and Field Club Journal. Vol. iii. 13 Nos., May 1866-May 1867. Huddersfield (Geo. Tindall). London (Simpkin).

In vol. ii. p. 155 we have, "Excursion of Manchester Scientific Students' Association to Reed Mere, 2nd Sept. 1865," by Jas. W. Hatton, supplying our only inland record for *Hippuris vulgaris*. Vol. iii. p. 131, "A Botanical visit to Delamere Forest;" Anonymous.

Vol. i. pp. 14-24, 33-38, 60-67, 93-103, 141-144, contains Mr. J. G. Baker's "Review of the

British Roses, especially those of the North of England," in which some Cheshire localities are included.

- N. B. G.* . . The New Botanist's Guide to the Localities of the Rarer Plants of Britain, on the plan of Turner and Dillwyn's Botanist's Guide. By Hewett Cottrell Watson. Vol. i. (England and Wales), 1835; vol. ii. (Scotland and the adjacent Isles), 1837. London (Longmans).

The Cheshire List occupies pp. 254-259 of vol. i., and a Supplement, pp. 635-636, of vol. ii. These contain many original records, chiefly contributed by Mr. Watson himself and Mr. J. E. Bowman.

- Newman* . . A History of British Ferns and allied Plants. By Edward Newman, F.L.S., London.

Ed. i. 1840; ed. ii. 1844; ed. iii. (Ferns only) 1854; ed. iv. 1865.

The Cheshire records in the above are transferred from the County List published by Mr. Newman in vol. i. of the "Phytologist," or are taken from other sources that I quote first-hand.

- Notabilia* . . See *Proc. Hist. Soc.* vi. N.S. p. 254 for the Botany of a paper entitled Notabilia of the Archæology and Natural History of the Mersey district during three years, 1863-64-65. Compiled by Henry Ecroyd Smith.

- Notes Ches. Fl.* Notes on a Projected Cheshire Flora. By J. L. Warren. 16 pp. Printed by Ranken & Co., St. Mary-le-Strand, London, and privately distributed in June 1873.

- Old Herbal* . . In the "Phytologist," vol. i. p. 700, under the title, "Notes on an old volume of Coloured Impressions of Plants," Mr. W. G. Perry transcribes Cheshire localities for 39 plants from "A curious old collection of impressions of plants, slightly coloured, lately come into" his possession. He remarks: "Although roughly executed, the character of the plant is well preserved. There are about 560 species contained in a foolscap folio volume of 370 pages. The names appended to the plants are evidently copied from the second edition of Ray's Synopsis, published in 1696. It appears from the localities named that the book belonged to some one living in the neighbourhood of Knutsford, in Cheshire." I have quoted from Mr. Perry's communication under the authority "Old

Herbal." (I may mention that I have endeavoured to trace this volume in vain. The library of the late Mr. Perry, who was a bookseller in Warwick, was sold by Messrs. Puttick & Simpson, of Leicester Square, on July 27, 1863, and during the three following days. The kindness of Mr. Perry supplied me with a sale catalogue, but I could find no trace of this volume among any of the 1300 odd lots.)

There are various other (short) papers bearing upon Cheshire botany scattered through this series of the "Phytologist," and these I have quoted where it is likely to be of service, *e.g.* from Mr. Samuel Gibson's article on *Sagina*; from the discussion about *Curax Ehrhartina* in vol. i.; from Mr. E. J. Wilson's localities in vol. ii.; and from Mr. Robert Holland's in vol. iii., &c.

- Ormerod* . . . The History of the County Palatine and City of Chester (or History of Cheshire). By George Ormerod, LL.D., F.R.S., and F.S.A. 3 vols. London, 1819.

This well-known County History has supplied topographical matter for the demarcation of the Hundreds, &c. In it is reprinted "The Vale-Royal of England, or the County Palatine of Chester, illustrated," which contains a very interesting Itinerary of each Hundred, written by Mr. William Webb in the latter part of 1621.

- Park. Theat.* Theatrum Botanicum; the Theater of Plants: or an Herball of large extent, &c. Collected by John Parkinson. London (printed by Tho. Cotes), 1640.

Contains only two records of Cheshire plants.

- Phyt.* . . . The Phytologist: A Popular Botanical Miscellany. Conducted by George Luxford, A.L.S. 5 vols. Vol. i. June 1844–Nov. 1844; vol. ii. 1845, 1846, 1847; vol. iii. 1848, 1849, 1850; vol. iv. 1851, 1852, 1853; vol. v. Jan.–July 1854. London (Van Voorst).

In vol. i. pp. 279–284, Dr. J. B. Wood publishes a "List of plants observed in the neighbourhood of Manchester," and where there is any material difference between it and the joint "Flora Mancuniensis," published two years previously, such variations have been noted.

At pp. 480–482 (vol. i.) we have Mr. Newman's county list of Ferns, made up from information supplied by Messrs. H. C. Watson, W. Wilson, Sylvanus Thompson, George Pinder, J. Side-

botham, and J. B. Wood. (Most of Mr. Sidebotham's localities for Cheshire appear in the list for Lancashire on pp. 477-479, and are so continued in Newman's "British Ferns.")

Phyt. N.S. . The Phytologist: A Botanical Journal. Edited by Alexander Irvine. A new series. 6 vols. Vol. i. 1855-56; vol. ii. 1857-58; vol. iii. 1859; vol. iv. 1860; vol. v. 1861; vol. vi. 1862-July 1863.

In Dr. Trimen's "Botanical Bibliography of the British Counties," one of the items enumerated under "Chester" is "Frodsham.—J. F. Robinson in *Phyt. N.S.* iii. 193." This paper has not proved of much service. Apart from the numerous palpable errors, the localities are scant and vague. "Near Frodsham," for instance, appears to be employed to cover a large radius extending into Lancashire, and into three, if not four, of the Cheshire Hundreds.

An anonymous communication relating to Over in vol. iii. pp. 233-250, which I believe was written or edited by Mr. Irvine, has been of service. With the aid of the Ordnance Map I have condensed the "Ramble" statements into definite localities.

I have likewise used the Cheshire records contained in "The Less Common Plants found about (within twelve miles of) Warrington," by the members of the Warrington Field Naturalists' Society. This is published in vol. vi. pp. 249-257. It is a fair list, and I judge it to be correct in the main. It is cited as *Warr. List*.

Other miscellaneous communications are quoted, e.g. "Botanical Excursions," by Thomas Rogers, in vol. vi.

Price . . . Old Price's Remains: præhumous or during life, &c. By John Price, M.A., &c.

In twelve monthly parts, April 1863 to March 1864, and in one vol. London (Virtue Brothers), 1864.

Contains a considerable number of references to plants growing about Birkenhead and Chester.

Proc. Hist. Soc. Historic Society of Lancashire and Cheshire. Transactions of (and Proceedings). Vol. i.-xii. 1849-1860. New series (in progress), 1861 to date.

Vol. vii. pp. 165-173, 1855. Remarks upon the Flora of Liverpool. By H. S. Fisher.

Vol. i. N.S. pp. 67-70, 1861. Botanical Notices. By H. Ecrolyd Smith.

Vol. iii. N.S. pp. 93-96, 1863. List of the British Roses and Brambles occurring in the Liverpool district. By H. S. Fisher.

Proc. Liv. L. and P. Soc. Proceedings of the Literary and Philosophical Society of Liverpool. Liverpool. 1844 to date.

Vol. vi. 1851, contains as an appendix Dr. Dickinson's "Flora of Liverpool."

Vol. ix. 1855. Supplement to the "Flora of Liverpool." By Joseph Dickinson, M.A., M.D., F.R.S., together with the Musci and Hepaticæ found within twelve miles of Liverpool and Southport, by Frederick P. Marrat.

Vol. xii. pp. 65-75, 1858. Notes on some of the principal stations for botanising in the neighbourhood of Liverpool. By Rev. H. H. Higgins, M.A.

Vol. xiii. pp. 6-8, 1859. Additions to Flora. By Rev. H. H. Higgins, M.A.

Vol. xiv. p. 30, 1860. Additions to Flora. By Rev. H. H. Higgins, M.A.

Vol. xv. pp. 8-14, 1861. Additions to Flora. This is an extensive list, chiefly contributed by Messrs. F. M. Webb and H. S. Fisher, with a supplementary list by Dr. C. Collingwood.

Vol. xvi. p. 12, 1862. Additions to Flora.

Note that in *Flo. Liv.* additions from the above range of supplementary lists to *Dick. Flo.* are brought forward indiscriminately as "J. S. in D.," &c. In this work additions from the Supplement of vol. ix. are referred to as *Supp. Dick. Flo.* The later additions bear references to their appropriate volumes.

Proc. Manch. L. and P. Soc. Manchester Literary and Philosophical Society, Memoirs of. 5 vols. 1785-1802; second series, 15 vols. 1805-1860; third series, 1862 and in progress.

Proceedings of the same, 1858, and in progress. The Memoirs do not contain anything relating to Cheshire botany. The following noteworthy papers appear in the Proceedings.

Vol. vi. pp. 21-23, and vol. viii. p. 200. On the plants springing up spontaneously on the fresh turning up of pasture land at Knutsford, Cheshire. By H. A. Hurst.

Vol. viii. pp. 165-170. Remarks on the Flora of Cheshire; with notices of the new and rarer Plants of the County. By Spencer Bickham, Jun.

Vol. x. pp. 49-53. On Mere Mere Plants (chiefly Mosses). By G. E. Hunt.

There are also some scattered notices about *Polygonum mite*, *Myosurus minimus*, *Carex Oederi*, &c., which I have quoted.

Pulleney. . . Historical and Biographical Sketches of the progress of Botany in England, from its origin to the

introduction of the Linnæan system. By Richard Pulteney, M.D., F.R.S. 2 vols. London (T. Cadell), 1790.

A very useful book, of which a new edition and continuation would be most acceptable to the botanist.

Ray's Itineraries Select Remains of the Learned John Ray, M.A., and F.R.S., with his Life. By the late William Derham, D.D., Canon of Windsor, and F.R.S. Published by George Scott, M.A., and F.R.S. London, 1760.

Quoted for "Mr. Ray's Itineraries," describing his visits to Cheshire.

Ray, Cat. Plant. Angliæ Catalogus Plantarum Angliæ et Insularum adjacentium tum indigenas, tum in agris passim cultas complectens. Opera Joannis Raii, M.A., F.R.S. London. Ed. i. 1670; ed. ii. 1677.

[*R. C. Rep.* Reports of the Botanical Locality Record Club, (and year). 1873-86.]

R. Fasc. . . Fasciculus Stirpium Britannicarum, post editum plantarum Angliæ catalogum observatarum a Joanne Raio et ab amico; cum synonymis et locis natalibus. London, 1688.

R. Hist. . . Historia Plantarum, &c. Auctore Joanne Raio. London. Vol. i. 1686; vol. ii. 1688; vol. iii. (qui est supplementum duorum præcedentium), 1704.

R. Syn. . . Synopsis Methodica Stirpium Britannicarum. Auct. Joanne Raio. London. Ed. i. 1690; ed. ii. 1696.

R. Syn. ed. iii. Joannis Raii Synopsis Meth. Stirp. Brit. Editio tertia. [Edited by J. J. Dillenius, M.D.] London, 1724.

All the above contain a sprinkling of Cheshire records; a few from the celebrated author's personal observation, and in the third edition of the Synopsis, Dr. Richardson communicates several additional ones for the county.

Robson . . The British Flora, containing the select names, &c., with the principles of Botany. By Stephen Robson. York, 1777.

Contains only reproduced Cheshire stations.

Salmon . . The English Herbal, or History of Plants. By William Salmon, M.D. London. Vol. i. 1710; vol. ii. 1711.

The several references to Cheshire plants are taken from *Ger. Em.*

Sec. App. Flo. Liv. A Second Appendix to the Flora of Liverpool, 1875.

CX LIST OF BOOKS, PERIODICALS, AND MANUSCRIPTS

Seem. J. of B. The Journal of Botany, British and Foreign. First Series edited by Barthold Seeman, Ph.D., F.L.S. 9 vols. London, 1863-71. [See also *Trim. J. of B.*]

Smith, Eng. Fl. The English Flora. By Sir James Edward Smith, M.D., F.R.S. 4 vols. London (Longman). Vols. i. and ii. 1824; vol. iii. 1825; vol. iv. 1828.

The Cheshire records are chiefly repetitions.

Smith, Fl. Brit. Flora Britannica. Auctore J. E. Smith, M.D. 3 vols. London (White). Vols. i. and ii. 1800; vol. iii. 1804.

In this work Mr. Du Bois' record of *Mespilus germanica* as growing "in the hedges about Minehiville" (in *R. Syn.* ed. iii.) is transformed into "in all the hedges about Minshull, Cheshire.—Du Bois."

Sole, Ment. Brit. *Menthæ Britannicæ*, being a new botanical arrangement of all the British Mints hitherto described. By William Sole. Bath (typ. Cruttwell), 1798. Quoted under *M. citrata*.

Student's Fl. The Student's Flora of the British Isles. By J. D. Hooker, C.B., &c. London (Macmillan), 1870.

[A second edition of this work was issued in 1878, and a third in 1884.]

Supp. Dick. Fl. See under *Dick. Fl.*

Syme, E. B. English Botany; or Coloured Figures of British Plants. Edited by John T. Boswell Syme, F.L.S. Third edition, enlarged, re-arranged according to the Natural Orders, and entirely revised, with descriptions of all the species by the Editor. 12 vols. London (Hardwicke). Issued in (monthly) parts. Vol. i. 1863, 7 Nos., Jan.-July 1863; vol. ii. 1864, 7 Nos., Aug. 1863-Feb. 1864; vol. iii. 1864, 8 Nos., March-Oct. 1864; vol. iv. 1865, 9 Nos., Nov. 1864-July 1865; vol. v. 1866, 8 Nos., Aug. 1865-March 1866; vol. vi. 1866, 7 Nos., April-Dec. 1866; vol. vii. 1867, 7 Nos., Jan.-July 1867; vol. viii. 1868, 10 Nos., Oct. 1867-July 1868; vol. ix. 1869, 7 Nos., Sept. 1868-May 1869; vol. x. 1870, 7 Nos., July 1869-May 1870; vol. xi. 1872, 6 Nos., Feb. 1871-72; [vol. xii. 1886.]

This masterly British Flora has been in constant reference as the highest standard for the discrimination of species and for nomenclature. With trifling exceptions my Flora is arranged in accordance with it, or rather with its repetition, and in few cases re-arrangement is presented for the practical use of collectors in the "London Catalogue of British Plants," edition vii. In a few

critical genera, *e.g.* *Batrachium*, *Rubus*, *Rosa*, *Triticum*, &c., some alterations and emendations derived from the studies of specialists are intercalated.

Topog. Bot. . Topographical Botany. Being Local and Personal Records towards showing the Distribution of British Plants traced through the 112 counties and vice-counties of England and Scotland. By Hewett Cottrell Watson. In two parts. Thames Ditton. Printed for private distribution only. Part First, 1873; Part Second, 1874. [Ed. ii. 1883.]

The list for Cheshire was furnished by the author of this work.

Trim. J. of B. The Journal of Botany, British and Foreign. Second Series. Edited by Henry Trimen, M.B., F.L.S., assisted by J. G. Baker, F.L.S.

The following are the principal papers relating to Cheshire botany that have appeared in the *Journal of Botany* since 1863.

Vol. vii. pp. 353-360 (1869). Some account of the Cheshire Rubi. By J. L. Warren.

Vol. viii. p. 88 (1870). Note on *Callitriche* at Tabley. By J. L. Warren.

Vol. viii. pp. 149-154, 169-176 (1870). On the *Dumetorum* group of Rubi in Britain. By J. L. Warren.

Vol. ix. pp. 6-9 (1871). Notes on Mr. Watson's "Compendium of the *Cybele Britannica*." By J. L. Warren.

Vol. ix. p. 215 (1871). On *Stratiotes aloides* in Central Cheshire. By J. L. Warren.

Vol. i. N.S. pp. 314-316 (1872). A Review of the "Flora of Liverpool." By J. L. Warren.

Vol. i. N.S. p. 306 (1872), and vol. ii. p. 18 (1873). On the non-occurrence near Manchester of certain common British plants. By L. H. Grindon.

Vol. iii. p. 278 (1874). *Anthoxanthum Puelii* in Cheshire. By H. Trimen.

Vol. iii. p. 338 (1874). Description of *Rosa involuta*, var. *Webbii*, from Cheshire specimens. By J. G. Baker.

Vol. iii. p. 357 (1874). On *Triticum pungens* Koch. By J. L. Warren.

Vol. iv. pp. 1-5 (1875). On *Anthoxanthum Puelii*, Lec. et Lam. (with plate drawn from a specimen gathered in Cheshire). By F. Townsend.

Vol. iv. pp. 163-167. On some doubtful species in the Cheshire Flora. By J. L. Warren.

[Notes, &c., relating to the Cheshire Flora will also be found in subsequent volumes of this Publication (edited by Mr. James Britten) until the present time.]

Walford . . The Scientific Tourist through England, Wales, and Scotland. By T. Walford, Esq., F.A.S., F.L.S. 2 vols. 1818.

Vol. ii. contains a list of Cheshire plants copied without the slightest acknowledgment from Lyson's "Magna Britannia," whilst the general preface would lead a reader to infer that the information was original. A portion of this list is reproduced in "The History and Topography of Cheshire," forming one of the series of Pinnock's County Histories (London, 1820).

Waring, in Phil. Trans. A Letter from Richard Waring, Esq., F.R.S., to the Hon. Daines Barrington, on some plants found in several parts of England. Dated, Leeswood, Dec. 24, 1770. Read before the Royal Society, Nov. 15, 1771, and published in *Philos. Trans.*, vol. lxi. (1772), pp. 359-389.

This valuable communication is thus prefaced:—"A catalogue of some indigenous plants, in places not heretofore mentioned, in the counties of Salop, Stafford, Chester, Flint, Denbigh, Carnarvon, and Merioneth, that are scarce in this island, or have been generally supposed to be so, or not indigenous; and occasionally of such in other counties; and some, that though common in some other counties, are scarcely, or not at all, to be found in these; and also of such as may be doubtful, perhaps originally foreign, though generally supposed to be natives of Britain."

The direct references to Cheshire plants number seventy.

Warr. List. . See under *Phyt. N.S.*

Wats. Outlines Outlines of the Geographical Distribution of British Plants. By H. C. Watson. Edinburgh. Printed for private distribution [1832].

Some plants for the county are here first affirmed by Mr. Watson.

In a copy of this book, now belonging to Mr. B. D. Jackson, the late Mr. Watson has made notes of many plants seen by himself in Cheshire.

With. Arr. A Botanical Arrangement of British Plants, &c. By William Withering, M.D., F.R.S. Birmingham. Ed. i. 2 vols. 1776. Ed. ii., including a new set of references to figures, by Jonathan Stokes, M.D., 3 vols. 1787-92. Ed. iii. 4 vols. 1796. Ed. iv., by William Withering, jun., D.D., F.L.S., 1801. Ed. v. 1812; ed. vi. 1818; ed. vii. 1830.

The third edition commences some original Cheshire records from Mr. Aikin, Mr. Caley, and

Mr. Hunter, and ed. v. has a few from Mr. J. Shepherd and Dr. Bostock. The other records for the county are principally reproductions.

Wood, Flo. . *Flora Mancuniensis; or A Catalogue of the Flowering Plants, the Ferns, and their Allies, found (indigenous) within fifteen miles of Manchester. . . . By John B. Wood, M.D., assisted by Messrs. Grindon, Buxton, Crozier, and others. Halifax: Leyland & Son. 1840.*

Mr. Buxton was the chief assistant in the compilation of this book (*vide* Preface, p. v.), which, two years later, formed the basis of the list contributed by Dr. Wood to the "Phytologist." Being the earliest printed record for many Cheshire plants, it has, according to my rule, the preference for quotation, but it must be understood that the same localities are generally repeated in *Buxt. G.* and *Gr. Flo.*

By the shortness of the lists in the difficult genera, &c., only 606 species are contained in this Catalogue (463 to Cheshire), to some of which the term "indigenous," used on the title-page, is certainly not applicable.

The arrangement is Linnæan, in accordance with *Hook. Br. Fl.* ed. iv.

ADDITIONAL BIBLIOGRAPHY.

Add. Gr. Flo. The list of Additions and Corrections appended to *Gr. Flo.* (pp. 570-575).

Astley, List. See under "Astley" in the preceding List of Persons concerned in the Past with Cheshire Botany (p. lxxx).

Bot. Misc. . Botanical Miscellany, &c. By William Jackson Hooker, LL.D., &c. Vol. i.-iii. (1830-33).

Clusius . . *Rariorum Plantarum Historia sex libris descripta a Carolo Clusio. Antwerp, 1601.*

Nat. S. B. . The Liverpool Naturalist's Scrap Book. See under "L. N. J." above.

Palin. . . Cheshire Farming. A report of the agriculture of Cheshire. By William Palin. London, 1845.

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- Proc. Edin. Bot. Soc.* Annual Report, Laws, and Proceedings of the Botanical Society of Edinburgh. 1836-41.
- Trans. Edin. Bot. Soc.* Transactions of the Botanical Society (of Edinburgh). Vol. iv. (1853) is cited under *Nitella translucens*, Ag.
- Trans. Hort. Soc.* Transactions of the Horticultural Society of London. Under "Henry Shepherd" in the Personal List will be found a reference to vol. iii. (1820) of the above.

FLORA OF CHESHIRE

FLORA OF CHESHIRE

DICOTYLEDONES.

RANUNCULACEÆ.

CLEMATIS, Linn.

C. Vitalba,¹ Linn.

Traveller's Joy.

Occurs, where native, in woods, on bushes, and in hedges, on calcareous soils. *Ss.* June, July.

At best only a casual in the county. Its garden origin with us is always obvious. This is a good test species of Mr. Watson's infer-agrarian zone. Its initial absence from our county shows that we have *not* a southern Flora to deal with. The plant fails at our bordering counties Stafford and Salop, and occurs no higher in Britain as a native.

THALICTRUM, Linn.

T. minus, Linn.

Lesser Meadow-Rue.

On shore banks and on sandy ground close to the coast. *P.* July.
Native. Confined to the west coast. Sea-level.

4. Banks of the Dee below Parkgate; (*Okell*), *Lys. M. Brit.*
Little Hilbre Island; *Hall, Flo.* Sandhills below West Kirby; (*Webb*), *Flo. Liv.* Little Eye Island, 1861; and Dee clay-banks below Thurstaston, 1861; (*Webb, sp.*), *Hunt, Hb.*

I have specimens gathered from "the Scrub" and from "Heswell Shore Heath" in 1873, which represent probably Mr. Okell's old station, and the plant still grows on Little Eye Island and below West Kirby. The Thurstaston locality has been destroyed since 1863 by tide encroachments and consequent falls of the clay cliffs. The plant found there is suggested in *Flo. Liv.* to have been different from that met with above and below in existent stations,

¹ [The reader will understand that all records to which no name is appended stand upon the authority of the author himself. Under each hundred these personal records are placed in order *after* the second-hand records, should there be any such. In a few cases where the record is given upon the joint authority of the author and some other botanist, the former is denoted by his initials, thus—*Webb and J. L. W.*—ED.]

and the specimen thence in *Hunt, Hb.* shows a large plant with zigzag rachis, wide-spreading panicle branches, and a right-angled arrangement of the petioles. In the present confusion about *T. minus* and its allies (*vide* Syme, *E. C. Rep.* 1869) it is prudent not to hazard an opinion; but I would suggest to the Liverpool botanists to ascertain whether or not they have *two* plants *still* growing along the Dee coast; my specimens of 1873, both gathered on the same day, point to some such fact; they are, however, too immature to determine; the one at that date is in simple bud, the other is in full flower.

T. flavum, Linn.

Yellow Meadow-Rue.

In trenches, in low wet meadows, and on the banks of streams.
P. July. Native. Local; and practically littoral. Shore chiefly.

2. Acton Grange, scarce; occurs also in the Arpley meadows across the river on the Lancashire side; *Warr. List.* Lane ditches at Moss Side, Hatton Moss; Pit near canal at east end of Lapwing Lane, near Moore.
3. Ditches at the extreme east of Hapsford Moor, Helsby.
4. Bidston Marsh, near the village, by the ditches; *Hall, Flo.* (Not recently confirmed; extinct?) Ditches about Hoylake, plentiful; (*W. Harrison*), *Dick. Flo.* (I only know it as occurring in the ditches or trenches of the rough swampy fields (called Lang Fields) to the right of the footway between the Hill Houses and Hoylake Station; *Webb.*)
5. At Aldford, by the bridge over the combined "Brooks," half a mile above their junction with the Dee; *Newbould and Webb.* Stream-side opposite Eccleston; Dee-side, "the Meadows," Chester; Dee bank, meadow plantation, Eaton Hall grounds; Ditch in river meadow, Bridge Trafford. Dee bank below Gamon's Rough, Chester; (*Chester Society*).

ANEMONE, Linn.

A. nemorosa, Linn.

Wood Anemone.

In woods, copses, and other shady places; occasionally also in fields.
P. April, May. Native. Generally distributed. Personal records in 1, 2, 7; second-hand records in 1, 2, 3, 4, 7.

Adonis autumnalis, Linn. *Pheasant's Eye*, is merely casual and accidental. Reported from (1) near Hyde; (*Sidebotham*), *Buxt. G.*; (2) in corn-fields near Ashton-upon-Mersey; (*Sidebotham*), *Gr. Flo.*; (3) near Gilbrook; *Hall, Flo.*; Sutton, by Hooton; (*Miss Lowe*, 1860), *Flo. Liv.*

MYOSURUS, Linn.

M. minimus, Linn.

Common Mousetail.

In gravelly and sandy soil; a weed in gravel walks. A. May, June.
Alien or casual. Local. Plain.

3. On the sides of the carriage-drive near the front of Vale Royal Hall, in fair quantity, though not extending to any distance; (*Bickham*), *J. of B.* ix. p. 29; (*Fisher*), *ib.* i. N.S.

p. 278, and *Brown, MSS.* (Still there, 1874; *Bickham*. Mr. Bickham observed the plant in 1870. Mr. Fisher afterwards independently lit upon it in June 1871.)

5. Lane near Poulton, east of Pulford; *Bowman, sp., N. B. G.* (Not reported since. Extinct?.) Ruts of a rough lane from Guilden Sutton to the Gowy; *R. Brown.*

RANUNCULUS, Linn.

R. circinatus, Sibth.

Rigid-leaved Water-Crowfoot.

In meres, ponds, and trenches. *P.* End June, July. Native. Thinly distributed. Plain. Shore. Confined to low levels.

1. Capesthorpe Mere; *Gr. Flo.* and *C. Bailey, sp.* Redes Mere, Capesthorpe, is meant, whence it is also reported (as *R. divaricatus*) by *J. W. Hatton* in *Nat. ii.* (1865), p. 155.
2. Tabley Lake; in the trench between Pickmere and Budworth Mere, copiously; also in both Meres.
3. Frodsham; (*Robinson*), *Flo. Liv.* and *Hunt, sp.* Grows in the drains alongside and off Moorditch Lane, on Frodsham Marsh; *Webb, sp.*; and in the eastern ditch bordering Frodsham Score; Ditch in "the Rake Lane," near Helsby station; The Gowy south from Plemstall.
4. In ditches in Bidston Marsh (as *R. cæspitosus, DC.*); *Hall, Flo.* (Now extinct? *Flo. Liv.*) Common in ponds and ditches about Woodside and Bidston, and other parts of Wirral; *Dick. Flo.* Near Parkgate; (*Mr. Pleasant*), *Flo. Liv.* Near Raby; in the Birket near Great Meols; (*Webb*), *Ib.*; and abundant along the course of the Birket towards West Kirby; *Brown.* In a deep pit by the road from the two lodges north side of Birkenhead Park to Bidston road; (*Fisher*), *App. Flo. Liv.* In a trench on the south side of the shooting range at Leasowe; *Webb.*
5. In ponds on the Frodsham road near the Chester Railway Station; (*Webb*), *Flo. Liv.* I missed finding it here in 1873; *Webb, MSS.* The Gowy south from Plemstall.

R. fluitans, Linn.

River Water-Crowfoot.

In brooks and canals. *P.* June, July. Native (or perhaps colonist). Local. Plain?

2. In the Waterless Brook between the Smoker Inn and White House Farm, Plumbley. The name of the brook shows how often it is dried up, hence the plant is small and starved. It is named *R. Bachii*, Wirtgen, by Mr. Hiern.
3. In the Chester and Ellesmere Canal about a mile west of Beeston Railway Station. In the Gowy under Guilden Sutton. (The receptacle is hairy, and I prefer to call it *pseudo-fluitans*; *Webb.*)
4. In the canal near Whitby Locks; *Brown.* In the Dee and Mersey Canal half a mile SW. of Moston Bridge.
5. In the D. and M. canal near Chorlton Bridge, and at intervals

thence to Mollington; *Webb and J. L. W.* In the Gowy under Great Barrow.

7. In the Macclesfield Canal between Mow Cop and Congleton; *Webb, sp.* The canal plant is the large ordinary form.

R. peltatus, Fries.

Shielded Water-Crowfoot.

Meres, ponds, pits, and ditches. *P. May, June.* Native. Distribution imperfectly known.

Var. a. truncatus (= R. truncatus, Koch).

2. Ashley, 1866; *Bailey*. In a pit on Tabley Hill; named for me *R. truncatus*, Koch, by Mr. Hiern. I have no reason to suppose the form at all rare about Tabley, but I do not understand "*peltatus*" and "*floribundus*" apart. Pit by Mosside Farm, Norton Marsh.
3. Frodsham Marshes; (*Robinson, sp. 1868*), *Hunt, Hb.* (Not typical, but rather goes here than under *floribundus*.) Pit in lane by "Prestland," near Bunbury; Field pit between Peck Mill and Dunham.
4. Ditch, King's Wood Lane, Little Soughall; Thornton Hough.
5. Field pit half-mile east of Gorstella; Roadside ditch between Meadow-Honor and Dodleston; Waverton quarry. [Pond at Horton; *A. H. Wolley Dod.*]

Var. β. floribundus (= R. floribundus, Bab.).

2. Pits by the yew-trees at Ashley, 1860; *Hunt*. (Good and typical.) Tabley Hill and Park; Bexton, &c.; Roadside pond between Ashley Station and Castle Mill. [Pit near railway line, near Plumbley Station; (*Bailey*), *R. C. Rep.* 1881-82.]
3. Ditches between Lordship Lane and Moorditch Lane, Frodsham Marsh.
4. Wirral, common; *Flo. Liv.*
5. Brickfield pits off the road between Dodleston and Gorstella; Watercourse forming the north boundary of the Lache Eyes near Chester.
7. In the ditch below the church, Lower Peover. The prevalent form.

R. pseudo-fluitans, Bab.

Canals, &c. *P. May, June.* Native. Southern and Midland counties.

3. *Vide* under *R. fluitans* (p. 3).
5. The canal near the baths, Chester, and both northward and eastward for some miles; The canal south of Christleton: very rare with floating leaves.

R. diversifolius, Gilib.

Various-leaved Water-Crowfoot.

In ponds. *P. May, June.* Native. Distribution imperfectly known.

Var. a. radians.

2. Hale Moss, Bowdon, 1858; Pit half a mile beyond Ashley

Hall on the road to Castle Mill, 1860; *Hunt, sp.* Mobberley; *Bailey, sp.* In a pit near the Serpentine Bridge, Tabley Park.

4. Common; *Flo. Liv.*
7. In a trench below Lower Peover church.

R. Drouetii, Schultz.

Drouet's Water-Crowfoot.

In shallow ditches. *P.* June. Native. Distribution imperfectly ascertained.

2. Ditch at the south end of Rose Wood near Moore.
4. Ditch between Bidston and Leasowe; (*Webb*), *Flo. Liv.* I think this refers to a roadside ditch between Leasowe Castle and the road about half a mile W. of Bidston. It grows (1873) in a ditch near to the pit that is close to Leasowe Lighthouse, and in plenty in some of the ditches of the Lower Lang Fields between Hill Houses and Hoylake Station; *Webb, sp.*
5. Roadside pond north of Bickerton; Ditches intersecting the Lache Eyes, near Chester (*qy. trichophyllus?*).

[*Var. a. Godronii* (= *R. Godronii*, *Gren.*).

2. Pit near Plumbley; (*Bailey*), *R. C. Rep.* 1881-82.]

R. trichophyllus, Chaix.

Fennel Water-Crowfoot.

In shallow ponds and trenches. *P.* May, June, July. Native. Distribution imperfectly known.

2. In shallow splashes behind the now abandoned tile-making sheds at Marston; and a deeper-water form from a pit on Flitto Gate Farm, Marston. These specimens have been seen by Messrs. Watson, Syme, and Hiern. Ditch in Moss Lane, Halton Moss.
3. There is a scrap so named in *Hunt, Hb.* from Mr. Robinson from "Frodsham Marsh" (date illegible), which may or may not be this plant. Laneside ditch near Elton Green (the flower is large for *trichophyllus*: it works fairly to *R. radians*).
5. Watercourses on the Lache Eyes, near Chester.

R. Baudotii, Godr.

Marine Water-Crowfoot.

In marsh ditches and splashes near to the sea. *P.* May, June, July. Native. Rather rare. Shore.

2. Pit near the farm called "Moss Side" in Norton Marsh.
3. Frodsham Marshes, plentiful; (*Robinson*), *L. N. J.*, p. 189. (The plant in *Hunt, Hb.* labelled "*R. Baudotii*, Ditch, Frodsham, May 1867," is certainly not this, but either *heterophyllus* or *floribundus*; specimen too poor to say which. Mr. Hunt gathered true *Baudotii* on Frodsham Marsh, whence there are specimens in his herbarium, dated June 1868, but there classed doubtfully to *R. trichophyllus*.) Ditch, "The Rake Lane," near Helsby Station.

4. In small ponds of brackish water, and on mud, at the upper part of Wallasey Pool, and in some of the ditches on Bidston Marsh; (*Webb*), *Flo. Liv.* and *E. C. Rep.* for 1866. Not now so abundant as formerly, still there is plenty of it, *e.g.* on the "Marsh" close to Poulton Bridge, 1873; *Webb, sp.* The "Hookes" at Seacombe; *Lewis, sp.* (This is the form (*fide* Hiern) named *marinus*—without floating leaves.)
- A single plant in one of the depressions of the marsh below Puddington, within the fence which divides the county; *Webb and J. L. W.* In a splash with *Hippuris* near the stepping-stones by Wallasey Pool.
5. Watercourses on the Lache Eyes, near Chester; Roadside pond near Gorstella; Brick-pits between Dodleston and Gorstella.

R. Lenormandi, F. Schultz.

Lenormand's Water-Crowfoot.

In peaty ditches or trenches, or small slashes, &c., in the low-levels, and about the sources of streams, and in their runnels in the high moorlands. *P.* Both Spring and Autumn. Native. Unequal distribution; chiefly hills and east plain. Ascends to 1500 feet at Goyt Head.

1. Runnels at Micklehurst; Hollingsworth; and head of Millbrook great wood; *Baker*. Swampy ground at the top of Whaley Moor (say 1300 feet), and at intervals in the watercourse therefrom down to Bollinhurst; The stream by Saltersford Hall, a little south of Jenkin Chapel; Swampy wood at the head of the north branch of the stream that passes through Furness Vale; Drain channel near the source of the Goyt; Roadside gutter between Bank Farm and Blue Boar west of Jenkin Chapel; In the ditch alongside the road from the mill in Lyme Park to the SW. park-gate; *Webb*. Alderley; *Hunt, sp.* Ditch by the Huddersfield road from the George Inn, Woodhead.
2. Between Dunham and Carrington; (*Hunt*), *Gr. Flo.* Hale Moss, 1861; and ditches, Dunham, 1864; *Hunt, sps.* In trenches on Tabley Hill; also on Knutsford Moor.
3. On the west margin of Oakmere, a short distance from the northern extremity of the water; *Brown, sp.* N.W. margin of Oakmere; Hatchmere, north margin; Ditch at the north base of Simmonds Hill, near Alvanley; Lob Slack, near Cuddington. [Wet ditch in the neighbourhood of the Mere, Delamere; (*Searle*), *R. C. Rep.*, 1881-82.]
4. In several of the ditches on the north side of Oxton Heath, and about the pit at the SW. corner of the Heath: used to be more plentiful thereabouts; *Webb*. Ditch, Oxton; *Lewis, sp.*
7. Plentiful in our peat mosses (*i.e.* about Congleton); *E. S. Wilson*, in *Phyt.* ii. (1846), p. 552. Seen in small quantity in several places about Congleton, *e.g.* a small piece of water by the roadside opposite to entrance to Rainow

stone quarries; Ditch above Wood Hay, ascending Congleton Edge; Roadside ditches nearing the Moss from the town; *Webb*.

Distributed with tolerable frequency over the eastern half of the province, the western portion only supplying one station (Oxton). An elegant form from a pond with clear water by a grass lane in Tabley Hill has considerable affinity to *R. intermedius*, *Hiern*.

R. hederaceus, *Linn.*

Ivy-leaved Water-Crowfoot.

The margins of muddy ponds and pits, and in splashes and ditches.

P. Early Spring to early Winter. Native. Generally distributed. Ascends to 1000 feet above Longside, Disley. Personal records in 1, 2, 3, 4, 5, 7; second-hand records in 1, 2, 4, 6, 7.

R. canosus, *Guss* (= *R. homœophyllus*, *Hiern*, *Mon.*).

Ditches, &c. *P.* Spring to Autumn. Native. Local.

1. In a roadside well near Mr. Steel's farm on Tabley Hill.
2. Hale Moss, 1856; *Hunt*, *sp.* This state is labelled not incorrectly under *hederaceus*, and bits of it are parted among the ordinary plant from the above station. Note that the true *Lenormandi* grows here also.
5. Pit between the windmill and village of Waverton; *Brown*, *sp.*

This state certainly merits separation as much as *floribundus* and *truncatus*. Its extremes constitute a clearly enough marked plant.

R. sceleratus, *Linn.*

Celery-leaved Crowfoot.

In and by muddy ponds, pits, and ditches, and in brackish-water trenches and splashes near to the coast. *A.* or *B.* June to August. Native. Common in the low-levels. Ascends to 300 feet. Personal records in 2, 4, 5, 7; second-hand records in 1, 2, 4, 5, 6, 7.

R. Flammula, *Linn.*

Spear Crowfoot.

In 'grassy ditches, marshes, by the side of ponds, &c.; and in the runnels and swampy depressions amongst the hills. *P.* June to August. Native. Generally distributed. Ascends to 1300 feet at Whaley Moor. Personal records in 1, 2, 7; second-hand records in 1, 2, 3, 4, 5, 6, 7.

Var. β. pseudo-reptans, *Syme.*

2. Mere Mere.
3. Hatchmere; *Melville*.
4. Moist hollows of the sandhills; (*Marrat and Gibson*), *Flo. Liv.*

Recorded also without stations in *Hall*, *Flo.*

I attach little importance to the small procumbent state of the species distributed above.

R. Lingua, *Linn.*

Great Crowfoot.

The sides of meres and pits, and in ditches and trenches. *P.* July, August. Native. Thinly distributed. Ascends to 230 feet at Higher Peover.

1. Near Staleybridge; (*Crozier*); *Wood*, *Flo.* (Not repeated in

- Buxt. G. or Gr. Flo.*) Radnor Mere in Alderley Park; Capesthorpe; *Gr. Flo.*
2. Bridgewater Canal; *B. G.* (Probably on Dawson Turner's authority.) In Seaman's moss pits, by the canal; *Wood, Flo. and Hunt, sp.*, 1864 (still abundant here). Lower Walton; *Warr. List.* Knutsford Moor; *Buxt. G.* Plentiful in Springwood water near Knutsford; *Holland.* (This includes Booth mill-dam; *Buxt. G.* ed. ii., Pedmore Hollow and Springwood; *Gr. Flo.*, and the locality in *Phyt.* vi. N.S. p. 249.) All round Pickmere Mere, and again in a pit near the Lennards Wood between Pickmere and Tabley.
 3. Hatchmere; *Melvill.* Hatchmere, east side sparingly, north side amongst the reeds abundant.
 4. Oakfield, North Birkenhead; *Hall, Flo.* (Now destroyed.) Marshy ground between Hoylake and West Kirby; (*Webb and Fisher*), *Proc. Liv. L. and P. Soc.* xv. (1861), p. 8. (This record refers to what I now term the Lang Fields; it is still in fair quantity there, 1873; *Webb.*) Raby; (*Dr. Collingwood*), *Ib.* p. 14.
 5. [Horton; Near Broxton Station; Most of the Cheshire meres about Whitchurch; Planted in Edge Park; *A. H. Wolley Dod.*]
 6. Wybunbury; *Garner, N. H. Staff.* Marbury Mere; (*F. Dickinson*), *Leight. Fl. Shrop.* Marbury Small Mere, 1874; *Brown.*
 7. In a ditch in Higher Peover Park.
- A characteristic plant of a mid-Cheshire mere.

R. auricomus, Linn.*Goldilocks Crowfoot.*

Edges of woods, shady hedge-banks; occasionally in pastures. *P. May.*
Native. Rather local.

1. Woods in Reddish Vale; *Buxt. G.* By the Bollin from Wimslow to its entry into Hundred 2; *Holland.*
2. Near Cotterill Wood, between it and the river Bollin; *Wood, Flo.* Up the Bollin from Castle Mill, Ashley, to its entry into Hundred 1: *Holland.* Fields between Bowdon and Rostherne; *Buxt. G.* ed. ii. Near Hale Moss; *Ib.* Top of an old wall at Hale Barns; *Hunt, sp.* Not common: near the White Lodge, Tabley Park.
3. Weaver Valley (Cattenhall); (*Robinson and Fisher*), *App. Flo. Liv.* Near Acton; *Webb.*
4. Near Woodside; (*J. G. Rylands, per Bot. Soc. London*, 1840); *Watson, Hb.* Gilbrook; *Hall, Flo.* (Originally recorded as plentiful. At date of *Flo. Liv.* a few plants remained, and this remnant has probably now passed away.) Prenton Vale, in a coppice; (*Fisher and Marrat*), *Flo. Liv.*
7. Under hedges in fields about Congleton; *Watson MSS. notes.* Flowering early, I may have overlooked this species.

R. acris, Linn.*Buttercup Crowfoot.*

In meadows and pastures, roadside banks and wastes, moist grassy ditch-sides, &c. *P.* Early Summer to Autumn. Native. Generally distributed. Ascends to 1750 feet at the "Cat and Fiddle." Personal records in 1, 2, 3, 4, 5, 6, 7; second-hand records in 1, 2, 3, 4, 5, 6, 7.

I collected a series of *R. acris* in the lane between Pickmere and Waterless Bridge. These Dr. Syme noticed with others from Wilts and Gloucester at some length in *E. C. Rep.* 1869, p. 8. His remarks are not encouraging to any attempts which have been made to split *R. acris*.

R. repens, Linn.*Creeping Crowfoot.*

Roadsides, pastures, ditches, and in arable land. *P.* May to August. Native. Generally distributed. Ascends to 1750 feet at the "Cat and Fiddle." Personal records in 2, 7; second-hand records in 1, 2, 3, 4, 5, 6, 7.

R. bulbosus, Linn.*Bulbous Crowfoot.*

In dry, sandy, and gravelly pastures and meadows; on lawns, hedge-banks, light soil wastes, and amongst the sandhills. *P.* Spring and early Summer. Native. Generally distributed. Ascends to 800 feet on Werneth Low. Personal records in 2, 4, 5, 6, 7; second-hand records in 1, 2, 3, 4, 6.

R. hirsutus, Curt.*Hairy Crowfoot.*

Wastes, commons, pastures, waysides where water has stood; chiefly littoral. *A.* or *B.* June, July. Native. Rare; chiefly shore.

1. Once found in a field near Bellevue, near Hyde; *Sidebotham*.
2. Hedge-bank a little below Bowdon Church, very sparingly; *Wood, Flo.* Near Bowdon in clover fields, occasionally; *Buxt. G. ed. ii.*
3. By railway bridge near Hapsford Hall, Helsby.
4. Near Birkenhead, two localities; *Hall, Flo.* (Destroyed long since.) Sparingly in one locality on Bidston Heath; *ib.* Brickfields near Wallasey Pool; *Dick, Flo.* By roadsides and on waste ground about Cloughton village; (*Gibson and Webb, Flo. Liv.* Banks and roadside near Bidston and Soughall; (*Fisher and Webb, ib.* River-bank north of Parkgate; (*Field Club*), *App. Flo. Liv.* Roadside between Storeton and Little Storeton, sparingly; (*Brown*), *Sec. App. Flo. Liv.*¹ Edge of the field by Denna Colliery, south of Parkgate; in the third field (say half a mile) N. of Parkgate.
5. In several of the fields alongside the footpath which forms the continuation of Shay Field Lane above Lea Hall (near

¹ This is the first quotation from this work, and I here note that I incorporated its contents soon after its publication in May 1875. Four out of five of the chief contributors having been in constant correspondence with myself, many of its records stood already on the MS. of this Flora. In this case I give references only in respect of records which I read for the first time in the second Appendix itself. Another reason for this plan is that the records often slightly vary, and I am unwilling to alter them.

Aldford); *Webb*. The Frodsham road north of Mickle Trafford; Cornfields near Plemstall.

Native on the coast, but probably a colonist or casual inland.

R. parviflorus, *Linn.*

Small-flowered Crowfoot.

On dry roadside wastes and banks. *A.* May, June. Native, or possibly with us colonist. Rare; chiefly shore. Ascends to 350 feet at Lawton.

4. Cornfields near Upton; *Dick, Flo.* Sandy lanes about Hoylake, plentiful; (*Skellon*), *Ib.* West Kirby; (*T. Sansom*), *Ib.* Found in 1860 by the side of the Upton road, near the cutting: not seen since; (*Fisher and Marrat*), *Flo. Liv.* I have only seen it in what I suppose is the West Kirby locality, where it has increased in quantity during the past ten years, 1873; *Webb*. This locality is the roadside (especially under a wall on the left-hand) ascending from the southern extremity of the Hill Houses towards Grange; *Brown, sp., May 1874.*

7. Lawton (near Alsager); *Garner, N. H. Staff.*

R. arvensis, *Linn.*

Corn Crowfoot.

A weed in crops of corn. *A.* June, July. Colonist or casual. Rare.

1. Occasionally in cornfields at Marple; *Buxt. G.* In a cornfield on Alderley Edge, 1873; *Brown*. Wellbank Piggery, near Millbrook; (*Tinker, Hb.!*), *Baker*.
2. On light sandy farms enclosed from Birken Heath, Moberley, in poor soil, accompanied with *Alopecurus agrestis*; *Holland*.
4. Cornfields near Gilbrook; and in one near the windmill, Upper Tranmere; (*Watson*), *Hall, Flo.* Lane near Bidston stone quarry; (*Skellon*), *Dick, Flo.* The *Flo. Liv.* does not specify localities, the plant not being permanent. *Mr. Webb* remarks: "Quite a rarity, I believe, in Wirral. I have only met with it once in any quantity, namely, in a field of corn by the footpath between the Woodchurch road and Prenton, in 1866. I have gathered a stray specimen in a lane from Gilbrook to the Flaybrick Hill quarry; this is a station mentioned in *Dick, Flo.*, and possibly connects us with a record in *Hall's Flora*."

R. Ficaria, *Linn.*

Celandine Crowfoot.

In woods, wooded cloughs, damp shaded hedge-bottoms, &c.; also on the banks of streams and in moist pastures. *P.* April, May. Native. Generally distributed. Personal records in 1, 2, 4, 7; second-hand records in 1, 2, 3, 4.

Var. β. incumbens, *Schultz.*

4. Marshy field between Irby and Thurstaston; (*Fisher*), *App. Flo. Liv.*, and *Brown*, who says: "I have gathered specimens which might be called *incumbens* at Thurstaston, but extreme *divergens* is mixed up with it, and all manner of connecting forms grow handy."

EXCLUDED SPECIES.

R. Pennsylvanicus, *Linn.* A casual.

4. Ballast near the Birkenhead Docks; (*H. S. Fisher*), *Flo. Liv.*

R. muricatus, *L.* A casual.

1. On a deserted arable patch near a cotton-mill at Micklehurst; *Baker, sp.*

CALTHA, *Linn.*

C. palustris, *Linn.*

Marsh Marigold.

In marshy places, such as the sides of meres, ponds, streams, in ditches, wet meadows, on the mosses, &c., ascending to the stream sources in the high moorlands. *P.* April to June, and exceptionally to September. Native. Generally distributed. Ascends to 1750 feet near the Cat and Fiddle. Personal records in 1, 2, 5, 7; second-hand records in 1, 2, 3, 4, [5], 6, 7.

[*Var. β. Guérangerii.*

2 ? Field near Mobberley, Cheshire; (*Bailey*), *R. C. Rep.* 1881-82.]

AQUILEGIA, *Linn.*

A. vulgaris, *Linn.*

Common Columbine.

In woods, thickets, and bushy hedge-banks. *P.* June, July. A dubious native? Rare.

1. Hedges in the fields between Marple Wood and the River Goyt; *Buxt. G.*
2. Near Knutsford; *Old Herbal*.¹ Baguley Moor; and Cotterill Wood, sparingly; *Wood, Flo.* Thicket near the banks of the Bollin below Cotterill Wood; *Buxt. G.*
4. Bromborough Wood; (*Hatcher and Higgins*), *Proc. Liv. L. and P. Soc.* xv. (1861), p. 9.
5. [Lower Wych, near Dymock's Mill, apparently native; *A. H. Wolley Dod.*]
6. About the county boundary north of Woore; *Waring*.²

TROLLIUS, *Linn.*

T. europæus, *Linn.*

Common Globe-Flower.

In damp open woods. *P.* June, July. Native. Rare. Hills.

1. In great plenty in a wood betwixt Staley Hall and Scout Mill, at a place called Wems, from which I sent 200 or 300 plants to Lee of Hammersmith; (*Bradbury*), *B. G.* "Millbrook Great Wood, the only station in the district;" (*Tinker, Hb. !*), *Baker*. Great Wood (Big Wood), Staley; *Walker, sp.*, July 1874.

¹ In agro secundo ultra domum Anson House dictum prope Boothwood ab Knutsfordiense circiter unum milliare inveni; *Phyt.* i. p. 700.

² *Aquilegia fl. atro rubido*.—Four of this kind on a small bank by the highway about half a mile from Wore, Salop, towards Nampwich; *Waring in Phil. Trans.* lxi. (1771), p. 361.

[ACONITUM, Linn.

A. Napellus, Linn.*Monkshood.**P.* Late Summer. A denizen. One locality.

5. Established in Edge Lower Wood for at least thirty years, probably more, but only in one spot; *A. H. Wolley Dod.*]

BERBERIDEÆ.

BERBERIS, Linn.

B. vulgaris, Linn.*Common Barberry.*

In hedgerows. *Sh.* May, June. Alien, usually planted. Scattered thinly throughout.

1. Water Meeting Farm near Romiley.
2. "About twenty years ago a young plantation on the lands of Sir J. F. Leicester was fenced out with a barberry hedge about a hundred yards in length;" *Holland* (1808), p. 135. (*Note.*—I had not met with this statement when my record given below was made.) Hedge-bank in a lane between Hale Moss and Hale Barns; *Buxt. G.* ed. ii. Beyond Jackson's Boat on the road to Baguley; *Gr. Flo.* Round a covert near the Smoker Inn by the brookside towards Tabley Park, evidently planted.
3. Rather common at Kingsley, there being several large hedges of it; (*Robinson*), *Flo. Liv.* Netherton, sparingly; (*Robinson*), *L. N. J.* p. 190. Lane-hedge about a mile east of Mouldsworth Station.
4. Hedges at Bromborough, planted; *Dick. Flo.*
5. Several bushes in hedgerow just before reaching Stretton Mill from Carden Green; *Brown.*
7. Plentiful in hedges near Congleton and Peover; *Gr. Flo.* In hedges at Lower Peover, near Bradshaw Brook, and Hulme Lane, probably planted.

NYMPHÆACEÆ.

NYMPHÆA, Linn.

N. alba, Linn.*White Water-Lily.*

In meres, ponds, and pits. *P.* June, July, August. Native. Fairly general distribution. Confined to low grounds (200 feet). Personal records in 1, 2, 3, 5, 6; second-hand records in 1, 2, 3, 4, [5], 6.

The following extract is from "The Natural History of Lancashire, Cheshire, and the Peak in Derbyshire," by Charles Leigh, 1700, and it is the only item relating to the botany of our county that I find worth transferring:—

"Nymphæa or Water-Lily . . . has roots of an immense magnitude,

some I have seen as thick as the thigh of a man, which were taken out of the pond at Tabley in Cheshire, which was drained, where the remaining earth or mud, which was black and foetid, was wholly overspread with them."

NUPHAR, Sm.

N. luteum, Sm.

Yellow Water-Lily.

In pits, ponds, meres, &c. *P.* June to August. Native. Generally distributed. Personal records in 2, 3, 5, 7; second-hand records in 1, 2, 3, 4, 5.

The Floras of the coast province quote this as "occasional" and the preceding species as "frequent." In Mid-Cheshire the yellow water-lily is the commoner plant.

N. pumilum, DC.

Has been recorded for Chester; *Comp. Cyb. Brit.* p. 478. Mr. Wilson informs me that this is growing at Oulton; (*J. F. Robinson, MSS.*), *Comp. Cyb. Brit.* p. 607.

The above is the sum of my "positive" information. On the other hand, Sir Philip Egerton, the owner of Oulton, does not know of the plant as occurring there, whilst he complains of the *Limnanthemum*; nor has Mr. Wilson marked the plant as having been seen by him in his record-book, now at the British Museum.

It is true the plant has been recorded from the neighbouring county of Shropshire, but the correctness of the naming is not beyond contest.

(I saw the leaves of the small form at Oulton in 1874, but I hardly think it is worth calling even a variety; *Bickham.*)

PAPAVERACEÆ.

PAPAYER, Linn.

P. Rhæas, Linn.

Field Poppy.

In cornfields and other cultivated ground, also on light soil wastes near the coast. *A.* Through Summer. Colonist on coast, casual inland. Local and unequal distribution. Chiefly shore.

1. Observed near Disley.
2. About Bowdon; very rare; *Buxt. G. and Hunt, sp.*, 1856. Plentiful near Sale Station in 1858; *Gr. Flo.*
3. Railway embankment, Barrow.
4. The second poppy in frequency, I think, at Wirral, but I only positively remember it on the west side, where, about Hoylake, West Kirby, and Parkgate, it makes a fine show on the sandy hedge cops and wastes, also in the grain-crops; *Webb.* I have seen it about Parkgate, &c., and the three Liverpool Floras give it as frequent. Blacon Point road. Chester.

5. Frequent on sandy ground west of Chester; Christleton.

In *Trim. J. of B.* i. p. 305, and ii. p. 19, Mr. Grindon states that personally he has never met with this species within twelve miles of Manchester.

P. dubium, Linn.

Long-headed Poppy.

In cornfields and other cultivated ground, also by roadsides and on railway embankments, light soil wastes, and rubbish heaps. *A.* Through Summer. Colonist. Distributed throughout rather thinly. Ascends to 650 feet at Taxal. Personal records in 1, 2, 3, 4, 6, 7; second-hand records in 1, 2, 3, 5, 7.

Our plant is the sub-species *P. Lamottei*, Boreau. The other sub-species, *P. Lecoquii*, Lamotte, has been found once very sparingly near Liverpool.

Nowhere in England are poppies generally so scarce, I fancy, as round Tabley, the only one to be found being *P. dubium*, and this never profusely. I was walking once with a common farmer from my neighbourhood near Queen's Ferry. A turn of the road showed us a brilliant patch of poppies in a distant field. The man started back and exclaimed, "What is that?"

P. Argemone, Linn.

Pale Poppy.

In cornfields and other cultivated ground, also by roadsides and on light soil wastes. *A.* June, July. Colonist. Casual in East Cheshire. Local and unequal distribution. Chiefly shore and west.

2. Bowdon, 1857; *Hunt, sp.* Common about Bowdon; *Buxt. G. Sale; Gr. Flo.*
3. Dean Bank road, &c., Beeston Castle; By Yew-Tree House, Little Budworth Common.
4. Given as common in all three Liverpool Floras, and I have myself found it at Wallasey, Hoylake, Parkgate, &c.; Blacon Point; Gayton Lane; banks, &c., by the Cop.
5. Roadside at Tattenhall; *Lewis, sp.* Lache Lane, Chester; Near Tattenhall Station.
7. About Combermere and Wrenbury, where it is apparently common.

EXCLUDED SPECIES.

P. somniferum, Linn.

Opium Poppy.

Is occasionally (but rarely) met with as a stray; it does not, however, hold its ground.

GLAUCIUM, Tourn.

G. luteum, Scop.

Yellow Horned Poppy.

Amongst the sand and shingle, and on hedge-cops and rubbish heaps on the coast. *B.* July, August. Native. Confined to the west coast. Shore.

4. Along the Parkgate shore; (*Miss Potts*), *Hall, Flo.* The shore between Hoylake and Parkgate, and near the Collieries;

Dick. Flo. I have a specimen labelled "New Brighton, coll. H. E. Smith;" (*Webb*), *Flo. Liv.* On the banks of Wallasey Pool; (*Gibson*), *Ib.* Grows to the greatest advantage in a sheltered position at the north corner of the Heath on Heswell shore; in the open it is cut up by the prevailing N.W. wind; *Webb.* Frequent on the Dee side between the Royal Hotel, Hoylake, and West Kirby; at intervals on the coast about one and a half miles north of Parkgate; also on refuse heaps of the Denna Colliery a mile south of the town; and at intervals therefrom to the Burton Point.

Excepting Mr. Gibson's record, which I believe applied to a single plant, and the old specimen of Mr. Smith, this species is practically confined to the sandy low-lying reaches of the West Wirral coast from Hoylake to Burton Point, with occasional extensive intervals of absence from physical causes.

CHELIDONIUM, Linn.

C. majus, Linn.

Common Celandine.

Near villages or dwellings, generally in and under the garden hedges, or on tumble-down and loosely built walls, also on the adjacent roadside "greens" and wastes. *P.* May to August. Denizen. Thinly dotted throughout the plain, but becoming frequent in its south-east localities.

1. Alderley; *Gr. Flo.* Close to the entrance to the National School, Woodford; *Webb.*
2. Altrincham; Bowdon; Dunham; *Buxt. G.* Baguley; Ashton-upon-Mersey; *Gr. Flo.* The roadside between Bowdon and Rostherne Mere; *Hunt, sp.* Hedge at the south end of Tatton Mere; *Rogers*, in *Phyt.* vi. N.S. p. 248. About three plants within a mile radius round Tabley.
3. Near Sandiway; By a cottage on Helsby Hill; Near Beeston Castle Station; Lower Bunbury.
4. In lanes about Eastham; *Hall, Flo.* At the foot of an old wall near Gayton Hall; (*Brown*), *App. Flo. Liv.* About three-fourths of a mile along the road from Parkgate to New Hill; *Webb.* A weed in a small garden at Chorlton, and on the banks of the adjacent lane; *Brown.*
5. Between Tattenhall Station and village, near a farmyard; *Lewis.* Aldford; Guilden Sutton; and about many of the villages near Malpas and Broxton; *Brown.* In most of the villages in the south half of the Hundred; *Webb.* Lane alongside Bache Pool, Chester; *Ib.*
6. Hedge-banks at Wrenbury and Marbury; also near Ravensmoor Bridge; *Brown.* Frequent in the south portion of this Hundred; *Webb.* Between Gresty Green and Shavington on the Crewe to Wybunbury road; *Id.*

FUMARIACEÆ.

CORYDALIS, DC. .

C. claviculata, DC.*Climbing Corydalis.*

In rough—stony and bushy—situations, either wastes, borders of woods, or hedge-banks; also in the hedges and amongst shrubs near the mosses and on peaty soil. *P.* June to August. Native. Thinly distributed throughout. Ascends to 1000 or 1100 feet above Kettleshulme.

1. Big Wood near Staley Hall; *Buxt. G. and Walker, sp.* Hedge-banks near Syddall Moor; Offerton Rough near Stockport; *Buxt. G.* Among the ferns on Alderley Edge; *Brown.* Near Charles Head Farm, ascending by the lane that branches off from the main road alongside the bridge half a mile SW. of Kettleshulme; *Webb.* Lane to Aqueduct Farm, near Romiley; *Chapple.* On the west side of Lindow Common.
2. Woods around Holford Moss (part in Hd. 7), and hedges in various parts of Mobberley; *Holland, in Phyt. iii.* (1850), p. 863. In the neighbourhood of Carrington Moss; *Gr. Flo.* Also on Hale Moss; *Id.*, and *Hunt, sp.* Arley Park Moss; on Tabley Hill; Tabley Garden Wood, once; Ditches near Pickmere Mere on Mr. Earl's farm; Knutsford Moor; &c.
3. Among the gorse on the west side of Helsby Hill near the quarry; *Brown.* Helsby and Delamere; *Waring (v. infra).* Sandy-way-head; (*Okell*), *Lys. M. Brit.* The road edges N., S., and W. of Delamere Station; frequent.
4. Bidston; *Hall, Flo.* In a wood behind Bidston Hall; (*Harrison*), *Dick, Flo.* The upper portion of the wood on the west slope of Bidston Hill and at intervals southwards along the ridge to Noctorum, probably including the locality meant by "Upton" in *Dick. Flo.*; (*Webb*), *Flo. Liv. and MSS.* Flaybrick Hill; (*Smith*), *Id.* (This station now destroyed?) Sparingly on a bank close to Dibbinsdale Bridge, half a mile N.N.W. of Bromborough Station; *Webb.*
5. Broxton; (*Okell*), *Lys. M. Brit.* Hedge-banks by the roadside nearing Broxton Lodge from Barnhill Bank, 1874; *Webb.* King James' Hill, Broxton. [Edge Park; Edge Green; Overton Scar; *A. H. Wolley Dod.*]
6. Among brambles at the N.W. corner of Hankelow Moss (called Blackwater Moss on Ord. Map); *Webb.*

This plant is referred to by Waring thus:—*Fumaria cum capreolis*, *J. B.* Under a rock in the Forest De-la-mer, and on Helsby Tor, most abundantly on the oak-bushes on two small hills at the foot of the Tor; *Phil. Trans.* lxi. (1771), p. 369.

C. lutea, DC.*Yellow Corydalis.*

Alien and rare. On old walls near dwellings as a garden escape.

1. On old walls near Marple, four miles from Stockport; (*Holme*), *B. G.*
5. Naturalised at Hampton Post (near Malpas), on walls enclosing the barn and yard; *Brown*.

Comparing Withering's (ed. iii. p. 620) statement with the note by Mr. L. Howard in the "Botanist's Guide," p. 117, it would appear that specimens from our first-named locality led to the insertion (as *F. capnoides*) of this species into the British Floras.

FUMARIA, Linn.**F. pallidiflora, Jord.***Rampant Fumitory.*

Hedgerows and cultivated or newly-disturbed ground. *A.* June to August. Native or colonist. Information as to distribution probably imperfect.

2. Sale, 1863; *Hunt, sp.*
4. Hedge-bank, Poulton, first noticed in 1859—now destroyed; (*Fisher*), *Flo. Liv.* West Kirby; (*Fisher and Webb*), *Ib.* In 1866 abundant with *F. confusa* amongst potatoes in the garden of Prenton Hall; (*Webb*), *L. N. J.* p. 27. Roadside north of Willaston; (*Webb and Lewis*), *Sec. App. Flo. Liv.* By the roadside on the left hand entering Burton village from Neston; *Webb and J. L. W.*

Var. β . Boræi, Jord.*Boreau's Fumitory.*

In cultivated or newly-disturbed ground, and about the edges of fields, &c. *A.* June to September. Colonist or native. Fairly distributed inland; rarer coastwards?

2. Road between Altrincham and Timperley, 1860; Hedge-sides at Sale, 1864; *Hunt, sp.* Bank near Oldfield Hall, with tendencies to *F. pallidiflora*, 1869; *Hunt, sp.* Common and widely diffused in the townships of Lower Tabley, Plumbley, and Marston, &c.; Moss Lane, Moore.
3. Potato-field, Five Lane Ends, south of Overton.
4. In a wheat-field at West Kirby; (*Webb*), *Flo. Liv.* During the past few years I have seen it several times in Wirral, and it is common on the Lancashire side; *Webb, MSS.* Raby Watermill.
5. Roadside potato-field at Gates Heath, near Tattenhall Station, 1873; *Webb*. Abundant, 1874, in a stubble-field by the roadside a little to the south of Barton, with *F. officinalis*, and seen in several other places thereabouts; *Webb*. Pulford; Milton Green. [Near Edge Mill; Plentiful in fields near Churton-by-Farndon; A small-flowered form with green-tipped corolla on a wall at Preston Hall, Malpas (*teste Bennett*); *A. H. Wolley Dod.*]
6. Roadside by Willaston Toll Gate near Nantwich; *Lewis*.
7. Cultivated fields at Lower Peover, abundant.

F. confusa, Jord.*Wide-necked Fumitory.*

In cultivated land and about the hedges and borders of fields, &c. *A.* June to September. Colonist or native. Thinly distributed inland, frequent coastwards.

2. Timperley, 1862; *Hunt, sp.* Much less common than *F. Boræi*. Occurs here and there round Tabley, as on Tabley Hill by the lane-side.
3. Newly-broken soil by the bridge at Alvanley Station; *Webb*. In the lane between Acton Bridge and the "Horns" public-house; Eaton, near Tarporley; Roadside hedge-bank between Tiverton and Tarporley main road; Lower Bunbury.
4. Common in Wirral; (*Webb*), *Flo. Liv. and E. C. Rep.* 1862. A convenient place to obtain it, and whence my specimens have been distributed, is amongst the root-crop in the "Sandroft" near to the hotel above Cloughton village, Birkenhead; *Webb, MSS.* Hedge by the roadside leading south from Parkgate; at Hoylake, &c. : Dr. Syme named for me my plants from these two places, as also of Hundred 3; Bromborough Station, W.
5. Hedge-bank in the village of Guilden Sutton; *Brown, sp.* Near Milton Green (Handley); *Webb*. Peaty ground forming the "allotments" near Malpas; *Id.* Near the Asylum on the road between Chester and Moston. [Roadside below Bulkeley Hill (*teste Green*); *A. H. Wolley Dod.*]
6. Not uncommon about Audlem on the raised hedge-banks; *Webb*.

F. officinalis, Linn.*Common Fumitory.*

In cultivated land, and in newly-disturbed ground about the borders of fields, under hedges, by roadsides, &c. *A.* June to September. Native or colonist. Thinly distributed inland, frequent coastwards, and likely in the west.

1. On some rubbish at Northenden Station: in this instance clearly introduced.
2. About Bowdon and Altrincham; *Bux. G.* and *Hunt, sp.* By the canal close to Sutton Bridge.
3. Seen picked between Frodsham and Overton; *Webb*.
4. Seen in several places about Parkgate, and given as a common plant in all three Liverpool Floras; Neston.
5. Tattenhall; *Lewis, sp.* Abundant, 1874, in a stubble-field by the roadside a little south of Barton; *Webb*. Mr. Dickson's farm by the Navigation Cop, Chester; Pulford.
6. At the edge of a grass-field (on the side of a hedge, I think) just out of Audlem towards Hankelow: quite rare in this part; Ground newly disturbed on both sides of the road between Wrenbury Station and the village; *Webb*.

The distribution of this species is imperfectly known to me.

It is common in 5, and frequent in parts of 3, but I did not take localities.

A plant supposed to be *F. media*, *Lois.* found by Mr. Webb in 1862 near Cloughton village, is remarked upon in *E. C. Rep.* 1862. It was a casual introduction, and could not be found the subsequent year.

CRUCIFERÆ.

CAKILE, Gaert.

C. maritima, Scop.*Purple Sea-Rocket.*

On the sandy and shingly coast a little above high-water line, and occasionally in the hollows of the seaward sandhills. A. June, July. Native. Confined to the west coast in, say, half-a-dozen stations. Shore.

4. New Brighton; (*Webb, sp.* 1861), *Hunt, Hb.* In 1873 I saw a single plant in sand by the old bathing-machines near the Ferry House, Parkgate; Fine, but not in great quantity on the sandy shore of the Heath below Heswell: a little farther N. it is more plentiful, and some three miles onwards there is one reach of shore under West Kirby where it is in profusion: it is not a plant of the East Wirral coast, there being no suitable strand; *Webb, MSS.* I have gathered this near a stone embankment just out of Hoylake northwards: it is given as frequent in the three Liverpool Floras.

RAPHANUS, Linn.

R. Raphanistrum, Linn.*Wild Radish.*

A weed of cornfields and other cultivated land, straying on the neighbouring wastes and roadsides. A. June to August. Colonist. Fairly general. Personal records in 1, 2, 3, 4, 6; second-hand records in 1, 2, 4, 6.

An unsatisfactory plant for any attempt at discrimination in its permanent or casual stations.

Omitted in *Buxt. G.* Entered as frequent in the other Floras.

SINAPIS, Linn.

S. arvensis, Linn.*Charlock Mustard.*

In arable land and in newly-disturbed ground, also on railway embankments, &c. A. June to August. Native, but often sown. Distribution general. Ascends to 900 feet at Longside, Disley. Personal records in 1, 2, 3, 7; second-hand records in 1, 2, 4, 5, 6.

In all the Floras except *Buxt. G.*, where I presume it is accidentally omitted.

S. alba, Linn.*White Mustard.*

Wastes and arable land on calcareous soils where native. A. July, August. A mere casual with us, and even as such not frequent.

1. A single specimen seen on a roadside macadam heap at Hollingsworth; *Baker.*

2. Not entered in the Manchester Floras.
4. Waste places and borders of fields; *Hall, Flo.* Waste places, hedges, &c., abundant; *Dick. Flo.* These statements the *Flo. Liv.* corrects in a good note, and says, "Very rare, if found at all" As to Wirral, *Mr. Webb* says (*Topog. Bot.* p. 596), "A stray specimen or two is the most I have seen in Wirral"—*e.g.* in a lane below Nortorum Farm. North end of the Parade at Parkgate, a single specimen.
5. The yard, &c., of Brewer's Hall Farm, near Chester. In this case the plant was in equal quantity with *S. arvensis* over the area of the neglected farmyard.

S. nigra, Linn.*Black Mustard.*

On the banks of streams and in cultivated ground inland. On the coast by trenches, and on fieldside and roadside wastes and hedge-cops. *P.* June to August. Native, colonist, casual. Locally and unequally diffused inland; more frequent coastwards.

2. Rubbish heaps at Broad Heath and in a cultivated field at Bowdon; *Hunt, sp.* On roadside rubbish near the Holford Toll-gate, a single plant.
3. I have a record for this district: precise station forgotten.
4. I have seen this near Wallasey, Hoylake, West Kirby, and Parkgate. It is stated in *Flo. Liv.* to be frequent on the sandy ground near the coast and occasional inland. (The account in the Floras of this species coincides with my experience, but I do not call to mind any East Wirral Station; *Webb.*)
5. Shay Field Lane (N.W. of Handley), past the second gate from the Calveley Hall end, plentifully; Also in abundance on the left bank of the Dee as it skirts the S.E. portion of Eaton Hall grounds; *Webb.* Lane between Stone Bridge and the Baths, Chester; Dee bank, meadow plantation, &c., Eaton Hall grounds.

This species is native in 5 (*fide Webb*); in most of the coast stations it is a colonist, and a casual in most inland habitats, *e.g.* Holford Toll-gate.

BRASSICA, Linn.**B. Napus, Linn.***Cole Brassica.*

In cultivated ground (and by stream-sides?). *A.* or *B.* May, June. Alien.

2. Cultivated fields occasionally, but rare; *Buxt. G.* Banks of the Bollin below the Vicarage, Bowdon, 1860, 1864, 1868; *Hunt, sps.* (These specimens are not vouched for by me.)
4. Cultivated ground, &c., occasional; *Flo. Liv.*
5. Rubbish dépôt, Lache Lane, Chester.

B. Rapa, Linn.*Turnip Brassica.*

In cultivated land and by stream-sides, &c. *A.* or *B.* June to August. Personal records in 2, 7; second-hand records in 1, 2, 4.

Var. a. sativa.

2. Cultivated fields; not unfrequent; *Buxt. G.* By River

Bollin, 1858 and 1859; and in fields at Timperley, 1868; *Hunt, sps.*

4. In fields in Wirral occasionally; (*Watson, Hall, Flo.*)

I place here a form of *B. polymorpha*, easily procurable in any potato or stubble field in the neighbourhood of Tabley. In the other sub-species I have done little but transcribe blindly the various records, in the local Floras, of *Brassica*. The extent of my personal knowledge, meagre enough, comes to this. I name for the present, rightly or wrongly, the common sub-spontaneous plant of Mid-Cheshire, *B. Rapa*. In two instances I have gathered a plant near Tabley only differing, so far as I could see, by its hispid lower leaves. This I have entered with some hesitancy as *B. sylvestris*. Once I collected at Disley a plant with deeper-coloured petals and a diverse inflorescence, and this may have been that evanescent species *B. Napus*; but owing to lapse of time it will be safest not to record this as such.

Var. β. sylvestris (= *B. campestris*, *Auct.*).

1. Seen in the Staleybridge neighbourhood; *Baker.*
2. Common; *Buxt. G.* Fields between Bowdon Vicarage and Roostherne, 1859; Bowdon, 1858 and 1860; *Hunt, sp.* (These specimens must stand on Mr. Hunt's authority. They may or may not be correct.) On the Roses Farm, Pickmere: rare or overlooked; Banks of the Bollin below Castle Mill, Ashley.
3. Banks of the Gowy below Great Barrow.
4. Wirral; (*Dickinson, Hall, Flo.* By watercourse behind Lunatic Asylum, Chester.
5. Deeside, Aldford.
7. Lower Peover, in a field near the Church Farm occupied by Mr. Allen.

I make my records for 2 and 7 with some doubt. The specimens were full-grown and the radical leaves were certainly in both cases hispid.

B. monensis, Huds.

Isle of Man Brassica.

On the sheltered slopes and in the valleys of the coast sandhills, frequently growing alone with the maram grass (*Psamma*). *P. June.* Native. Confined to Leasowe sandbank, north coast. Shore.

4. Shore near the Battery at the mouth of the Mersey; (*Bowman, MSS.*) *N. B. G.* Sandhills at New Brighton; *Hall, Flo.* and *Dick. Flo.* (There is a specimen thence of Mr. Borrer's collecting in 1837 in his herbarium at Kew.) *Flo. Liv.* says merely, "Sandhills: frequent," which is meagre and unsatisfactory as far as Cheshire is concerned, as I have no record in extension of those here specified. I have gathered it on the sandhills where the road through Wallasey meets the coast between New Brighton and Leasowe, and thence it occurred here and there eastwards towards the former and westwards towards the latter. My personal experience confines it to a tract of about two miles on this shore.

DIPLLOTAXIS, DC.**D. tenuifolia, DC.***Wall Rocket.*

In stonework and on old walls. *P.* July to September. Native or denizen. Walls and rubbish-heaps. Local.

4. A specimen was sent to me by J. Harrison, said to be gathered at Neston; *Dick. Flo.* In some plenty on a low wall bordering a garden by the Parkgate shore: perhaps Mr. Harrison's locality: probably planted; (*Fisher and Webb, Flo. Liv.* It is now established amongst rubbish at the base of the wall at Gayton Cottage (Parkgate shore), and Mr. Newbould took it to be native; *Webb, MSS.* 1873. As a ballast-plant by the Great Float at Birkenhead; *Lewis, sp.*

5. In tufts nearly all round the old city walls at Chester; so conspicuous that even an unbotanical eye must notice it.

The walls of Chester; *Ray. Cat. Plant. Angliæ*, ed. i. (1670), p. 103; and has been recorded in many books up to the present time. I suppose the Chester Station, dating from certain information over two hundred years back, is as good a one, in regard to plenty and permanence, as exists in Britain for this species.

D. muralis, DC.*Sand Rocket.*

Roadsides and wastes. *A.* June, August. Alien and casual. One limited locality.

4. Under the coping-stone of Birkenhead Park rails at Cannon Hill, first noticed in 1860 by Mr. Price; also in several places by the side of the footway in Park Road West; (*Webb, Flo. Liv.* Constant traffic and regular road-cleaning keeps the plant from spreading much, but it exists after ten years of such opposition. It was introduced with "road" material, and has from time to time appeared temporarily in like manner about the suburbs of Birkenhead, passing away when the roads are brought into use. On the Lancashire side, with better opportunities, the plant has spread in the last few years for some miles along the railway from Crosby to Southport; *Webb, MSS.* And a further Lancashire extension over an area of seven miles between Waterloo and Freshfield; Also occurs at High-town and Formty, as noted in *Sec. App. Flo. Liv.*

SISYMBRIUM, Linn.**S. officinale, Scop.***Common Hedge-Mustard.*

By roadsides, under hedges, on wastes, hedge-banks, &c. *A.* June, July. Native. Common in the low country. Ascends to 600 feet at Marple. Personal records in 1, 2, 3, 4, 7; second-hand records in 1, 2, 3, 4, 5, 6.

[*Var. leiocarpum, DC.*

5. Lower Wych; *A. H. Wolley Dod.*

6. Wybunbury; *Id.*]

S. Sophia, Linn.*Fine-leaved Hedge-Mustard.*

On dry hedge-banks and sandy waste ground near the coast. *A.* June to August. Native, or possibly denizen. Chiefly north coast. Shore.

4. Abundant in various situations in Wirral, but generally near the sea; Bidston village near the church; Near Leasowe Castle; New Brighton, &c.; *Hall, Flo.* Hoylake; *Dick, Flo.* In many field-edges and rough fences about Hoylake; In a hedge between Leasowe and Bidston; A plant by the roadside about a mile west of Bidston (the most inland seen); A plant or two observed at Heswell; The Sealands road, sparingly in two or three places about one mile from Chester.

5. In cultivated fields by the Chester to Blacon Point road, about a mile from former; *Webb.*

Firmly and widely established along the north coast in Wirral, yet with a suspicious half-native look. My Heswell station is the only positive one for the west coast, and it has not yet been recorded on the east coast, or much more than a mile inland.

S. Alliaria, Scop.*Garlic Hedge-Mustard.*

Under hedges and in open or newly-cleared belts and plantations. *B.* May, June. Native. Ascends to 650 feet in Disley neighbourhood. Personal records in 1, 2, 3, 4, 5, 7; second-hand records in 1, 2, 4, 5, 6.

ERYSIMUM, Linn.**E. cheiranthoides, Linn.***Treacle Hedge-Mustard.*

A weed in gardens and in suburban neighbourhoods among horticultural crops, and thence passing to wastes and cultivated fields. *A.* June to August. Alien, tending to denizen. Most generally diffused coastwards, and probably increasing. Local and uncertain inland.

1. In a garden at Millbrook, and in an arable patch at Micklehurst; *Baker.* Near Stockport; (*Holme*), *B. G.*
2. Sale; *Buxt. G.* Fields and hedge-banks by the river near Carrington; *Gr. Flo.* A persistent weed for many years past in Tabley kitchen-garden: clearly introduced.
4. Not recorded by *Hall*, 1839. Two Lancashire stations given only in *Dick. Flo.*, 1851, increased to nine in *Supp. Dick. Flo.* 1855, of which one belongs to Cheshire, viz. Roadsides between Heswell and Storeton; (*Shillito*). "*Sutton*" is subsequently added, and at date of *Flo. Liv.* it was not thought worth while to specify stations. I have appended these dates to show, as suggested by a note in *Flo. Liv.*, the chronology of this alien as a Cheshire species. I may as well give one personal record in 4, namely, Numerous

plants on waste ground at Hooton Station, 1873. (Decidedly increasing through Wirral, so that now one is not surprised to meet with it in any fair walk; *Webb*.)

5. In large quantity in a potato-field by the roadside at Gates Heath, a mile west of Tattenhall Station; *Webb*.

E. orientale, Br.

A casual on ballast at Birkenhead; *Lewis*.

[E. repandum, L.

4. A casual on ballast, Birkenhead; (*Wheldon*), *E. C. Rep.* 1892.
5. Casual at Malpas Station; *A. H. Wolley Dod*.]

HESPERIS, Linn.

Hesperis matronalis, Linn.

Dame's Violet.

A garden outcast. "An escape not even naturalised;" *Student's Flora*.

4. There is a specimen in the herbarium (at Bot. Gard.) marked as found in Cheshire by J. Clough in 1801; *Hall, Flo.* Sparingly in several moist plantations in Wirral; (*Smith*), *Flo. Liv.*
5. Railway embankment "down" from Mickle Trafford Station about two-thirds of a mile, a single plant.

CHEIRANTHUS, Linn.

C. Cheiri, Linn.

Common Wallflower.

Alien. A garden escape to the neighbouring walls, &c.

3. Beeston Castle.
4. On old walls at Gayton, where it appears to have grown for many generations; (*Shillito*), *Supp. Dick. Flo.* Old walls at Wallasey; (*Webb*), *Flo. Liv.* As far as I recollect, I refer to about the church and the mill; *Webb*. Little Soughall.
5. Chester walls; (*Anon.*), *Phyt. N.S.* iii. p. 240.

CARDAMINE, Linn.

C. amara, Linn.

Large Bitter Cress.

In moist woods and by the side of streams. *P.* May, June. Native. Generally distributed in the east, practically absent from the shore and the coast. Ascends to 650 feet in Lyme Park.

1. Woods in Reddish Vale; *Buxt. G. and Sidebotham, MSS.* Morley; (*Holland*), *J. of B.* ix. (1871), p. 244. Stream-side by the bridge, a little above the milldam in Lyme Park, Disley; *Webb, sp.* Dan Bank Wood; Ditches in meadows below Heath Bank, near Cheadle; Apethorne Wood, near Hyde.
2. Cotterill Wood, abundantly; *Wood, Flo.* About Bowdon; Rostherne; *Gr. Flo.* Castle Mills, Ashley; *Hunt, sp.* Banks of Marthall Brook, and by most of the streamlets in the neighbourhood; (*Holland*), *Phyt.* iii. (1850), p. 863.

By stream in Becket's Wood, Aston, sparingly; Also in nearly all woods with streams and trenches in them in Tabley Park. Very prevalent in my home district.

3. In the Weaver Valley; (*Robinson, sp.*), *Hunt, Hb.* About Acton; *Webb.* Canal near Beeston; *Jebb.* Ashton Hey; *Chester Society.*
4. The littoral Floras give no Cheshire localities. *Hall* indeed says "meadows about Woodside," which is not subsequently repeated, and, if not an error, the locality must long since have been destroyed.
- [5. Abundantly in Lower Wood, Edge, and in wood near Edge House; *A. H. Wolley Dod.*]
6. Mill Eye, Nantwich; (*Bowman, MSS.*), *N. B. G.*
7. By the Dane at Congleton, particularly in a place called Paradise, some years ago, but now probably built over; (*Watson*), *N. B. G.* About Lower Peover Mill, and near the brook in the Fox Cover.

C. pratensis, Linn.

Lady's Smock Bitter Cress.

In damp meadows, and by the sides of ditches, trenches, pits, &c. *P.* Spring and early Summer. Native. Ascends to 1750 feet at the "Cat and Fiddle." Personal records in 1, 2, 3, 4, 5, 7; second-hand records in 1, 2, 3, 4, 6.

"It is called," says Gerarde, "at Namptwich in Cheshire, where I had my beginning, Ladie Smockes, which hath given me cause to christen it after my countrie fashion;" *Ger.* (1597), p. 203.

C. hirsuta, Reich.

Straight-stemmed Bitter Cress.

On dry banks, by roadsides, on walls, and in garden and arable ground, &c. *A.* March to June. Native. Spring, Summer. Ascends to 500 feet at Disley.

1. About Staleybridge; *Baker.* Disley Churchyard; *Webb.*
2. Abundant around Manchester; *Buxt. G.* Cultivated fields, Bowdon, 1860; *Hunt, sp.* In the nursery-ground near Tabley Grange, with the next; Occasionally in Tabley Garden Wood and front garden, early in spring.
3. Common about Mouldsworth and Manley; *Brown.*
4. Walls, dry banks, &c., very common; *Flo. Liv.*
5. Tattenhall; *Lewis.* [Abundant in damp ditches in the Malpas district; *A. H. Wolley Dod.*]
6. Nantwich; *Lewis.*

In the neighbourhood of Tabley this is much the less common of the two. It flowers earlier, and more rarely continues in bloom after middle summer.

C. sylvatica, Linn.

Flexuous Bitter Cress.

In damp shady places, *e.g.* the banks of streams, by ditches under hedges, and in woods. Grows also as a weed in gardens. *A.* April to July. Native. Records still scanty. Ascends to 1500 feet at Goyt Head.

1. Seen in the valleys E. and N. of Staleybridge; *Baker.* Rill

- by the roadside following up the Goyt from Goyts Bridge; At base of damp walls between Whaley Bridge and Disley; *Webb, sp.* Old Saltersbrook, east of Woodhead, 1250 feet; By the stream in Apethorne Wood, near Hyde, very fine.
2. Very common round Tabley, *e.g.* the nursery ground, garden wood, and front garden: flowers nearly all the year round.
 3. Banks of a small brook about one mile north of Mouldsworth towards Manley, and in damp ground near the footpath from Mouldsworth to Manley; *Brown.* Bridge Trafford; Guilden Sutton.
 4. By the side of pits and streams and in damp woods, frequent; *Flo. Liv.* Not much in N. and W. Wirral: it grows along Dibbinsdale Brook and its feeders near Raby Watermill; Also in the woods by the river near Hooton; *Webb.*
 5. By Golbourne Bridge near Tattenhall; *Lewis.* By roadside near Upper Beckley Wood Farm, two miles E. of Malpas; *Webb.* Just out of Tattenhall on Broxton road (just a trifle doubtful).
 6. The road south of Crewe towards Wybunbury, before the railway bridge; *Webb.* By roadside where the road from Audlem turns to Woodorchard, at the edge of field on left-hand side; *Id.*

In my personal notes I have records for the aggregate species in all the Hundreds, but cannot divide them satisfactorily excepting for the Tabley plants.

***O. impatiens*, Linn.**

Mountain Bitter Cress.

"A common weed in gardens;" (*Bradbury*), *B. G.*, under Cheshire.

No doubt tall *C. sylvatica*, or some luxuriant state of *C. sylvatica*, was mistaken. Indeed, in Mr. Bradbury's time, the former was not separated. *C. sylvatica* is eminently a garden weed in Mid-Cheshire. I have seen specimens of *C. impatiens* from Buxton; so the species is at no great distance from us on the east.

ARABIS, Linn.

***A. thaliana*, Linn.**

Thale Rock Cress.

On dry banks, walls, hard bare wastes, and light soil cultivated ground.

A. Spring. Native. Personal records in 2, 3, 4, 5, 7; second-hand records in 1, 2, 3, 4, [5].

***A. hirsuta*, Br.**

Hairy Rock Cress.

On banks and hardened wastes on the inland side of the coast sandhills.

A. Summer. Native. Confined to Leasowe sandhill on the north coast. Shore.

4. Sandhills, New Brighton; *Hall, Flo.*; and no further information is given in the two later Floras, so that, as far as present definite records go, the species is confined to a small tract of sandhill at N.E. Wirral. (I have seen this very rarely, and very dwarfed, and only below Wallasey; *Webb.*) On the sandhills where the road through Wallasey joins the coast, near where Sandfield Hall is marked on the Ordnance Map.

BARBAREA, Br.**B. vulgaris, Br.***Common Yellow Rocket.*

The banks and margins of streams and trenches, moist hedge-bottoms, &c. *P.* May to August. Native. Generally distributed. Ascends to 500 feet at Staleybridge. Personal records in 1, 2, 4, 7; second-hand records in 1, 2, 4, 5, 6.

Var. divaricata.

2. On the banks of a stream at Bollington, June 1868; *Hunt, sp.*
4. Waste ground about Parkgate Station.
5. Field-side, Tattenhall; *Lewis, sp.*

B. arcuata, Reich.*Arcuate Yellow Rocket.*

P. May to August. Native.

3. The roadside, edge of Oulton Mill Pool.

B. stricta, Andr.*Small-flowered Yellow Rocket.*

By stream-sides and on the banks of wet open ditches. *B.* June, July. Native. Rare. Shore and West Cheshire.

3. Banks of the Gowry under Great Barrow.
4. By the wooden bridge over the Mill Brook, a short distance east of Stoke, sparingly; *Webb.*
5. In a ditch some distance along Shay Field Lane, say between the second gate from the Calveley Hall end and the fields above Lea Hall Farm (Aldford): grows along with *Epilobium eu-tetragonum*; *Webb, sp.* Banks of the Gowry under Guilden Sutton; By watercourses on the Lache Eyes, Chester; Shay Field Lane (the old locality). [Lower Lane, Churton-by-Farndon; *A. H. Wolley Dod.*]

B. intermedia, Boreau.*Small Yellow Rocket.*

In cultivated fields. *A.* April, May. Colonist. In one limited inland tract and one shore neighbourhood. Shore and plain.

1. Banks of the Mersey near Northenden, 1858; *Hunt, sp.* (This may, of course, be on the Lancashire bank.) Amongst rye-grass in a field between Gatley and Cheadle.
2. In cultivated fields at Baguley, Timperley, and Altrincham; *Buxton, G.* Fields at Sale, 1864; *Hunt, sp.* Near Bowdon; *Syme, E. B.*
4. In a field of turnips near Hooton, 1866; (*Webb*), *Flo. Liv.* In 1873 I picked a specimen from the roadside between Hooton and Childer Thornton; *Webb.*

This plant was distinguished by Richard Buxton many years ago, and in the first edition of his "Guide" he entered it as *Var. intermedia* of *B. vulgaris*, without knowing that Boreau had, nine years previously, fixed upon the same term and separated the plant as a species. Their identity was established by *E. C. Rep.* 1859, containing this note: "*Barbarea intermedia*, Boreau." Specimens sent from the vicinity of Hulme in Lancashire leave little scope to doubt the identity of the *B. vulgaris var. intermedia* of Buxton's

Manchester Guide with this plant of France, Belgium, and Italy. It may be known from *vulgaris* and *stricta* by its *præcox*-like leaves and short styles; from *præcox* by its more robust habit of growth, and by its closer and more numerous silicles, which are only half the size of those of that species. The category of citizenship is that of *præcox*.

B. præcox, Br.

Early Yellow Rocket.

Alien. A stray from gardens, found occasionally on roadside wastes and similar places. There are specimens in *Herb. Hunt* from Sale, 1859, and Ashley, 1868; and the plant is mentioned in the Liverpool and Manchester Floras, but no Cheshire stations are specified; indeed, stations are scarcely worth giving for such a casual. As a present record, I may say that I have noticed the plant growing suspiciously enough on rubbish at Hooton Station; also on waste land at Parkgate Station. Brown notices a few plants on the hedge-banks in Manley Lane just before entering Manley.

NASTURTIUM, Br.

N. officinale, Br.

Common Watercress.

In streams, ditches, slashes, pits, &c. *P.* through the Summer. Native. Generally distributed. Ascends to 1000 feet near Woodhead. Personal records in 1, 2, 3, 4, 5, 7; second-hand records in 1, 2, 3, 4, 5, 6, 7.

N. sylvestre, Br.

Creeping Watercress.

On stream-sides. *P.* Summer. Native. In one, South Plain Station.

1. Brook-sides about Macclesfield; (*Bradbury*), *B. G.* (I am not aware of any subsequent confirmation of this record.)
6. Banks of River Weaver opposite the grounds of Shrewbridge House (south of Nantwich); *Brown, sp.*, 1874.

N. terrestre, Br.

Marsh Watercress.

The margins of ponds, pits, canals, streams, &c., and on damp wastes and places where water lodges during the winter. *P.* June to September. Native. Rather generally distributed. Ascends to 500 feet at Disley Churchyard. Personal records in 1, 2, 4, 6, 7; second-hand records in 2, 4, 5, 6.

N. amphibium, Br.

Great Watercress.

In shallow ditches and by the sides of streams and canals. *P.* Summer. Native on the coast, alien inland. Confined to North Wirral in one continuous station, and once inland in Hill Cheshire by a canal. Hills and shore.

1. Abundant about Disley and Lyme; *Sidebotham*. By the side of the Macclesfield Canal at intervals for a mile and a half south of Lyme Colliery, particularly in the interstices of the stone "sets" that are built into the bank to support the edge of the towing-path: probably extends along the course of the canal: there is no trace of it as a factor of the native vegetation of the district; *Webb*.
4. Ditches between Leasowe Castle and Bidston, abundantly; (*Skellon*), *Dick. Flo.* Ditches at Great Meols (the Birket);

(*Webb*), *Flo. Liv.*, and thence eastward to *Lingham*; *Brown*, *sp.* Marshy ground near the reservoir at *Seacombe*; (*Miss Grundy*), *L. N. J.* p. 190.

***Armoracia rusticana*, Rupp.**

Horse-Radish.

Alien. Occasionally on wastes, hedge-banks, and stream-sides. A mere escape from cultivation, which spreads rapidly, and is difficult to eradicate. Stations are not worth giving. *Gerarde* says: "Horse-radish, for the most part groweth and is planted in gardens, yet have I found it wild in sundrie places, as at *Namptwich* in *Cheshire*;" *Ger.* (1597), p. 187.

COCHLEARIA, Linn.

***C. officinalis*, Linn.**

Common Scurvy-Grass.

B. or *P.* May to July.

This species is entered as frequent on the coast in the three *Liverpool Floras*, and higher up the river is named in two lists, published by *Mr. Robinson*, of the *Frodsham Plants*; and amongst these records three definite *Cheshire* localities are specified, namely, the shores of *Wallasey Pool*, *Bromborough Pool*, and the mouth of the *Weaver*.

Finding that my own county gatherings were either *anglica* or *danica*, I made further inquiries amongst my *Liverpool* friends, and the result is, that up to the present time authentic *C. officinalis* has not been communicated to me from *Cheshire* coasts.

There are two further records under this name, viz. sea-coast below *Parkgate*; (*Bradbury*), *B. G.*, which probably refers to what we now enter as *C. danica*, and *New Brighton*, 1837; *Watson*, *MS.*

***C. danica*, Linn.**

Danish Scurvy-Grass.

Upon rocks and banks by or near the sea, and amongst the sand shingle and rubbish of the shore. *A.* April to June. Native. Dee coast. Shore.

4. At *Parkgate*; (*Okell*), *Lys. M. Brit.* *Hilbre Island*, abundant; (*Skellon*), *Dick. Flo.* At *Hilbre*, and here and there near the river to *Parkgate*; Occurs also on the damp sandstone banks of a lane towards the shore from the road near *Caldy*; *Webb*. At the base of walls around a limekiln just out of *Parkgate* to the N.; Also beneath walls half a mile S. of the town; Again on the mud of the coast onwards to the *Denna Colliery* at intervals (more dwarfed in habit here); Southwards one plant only was found between the collieries and *Burton Point*, where it was seen in fair quantity; *Webb and J. L. W.* Under a hedge running parallel to the coast-line a quarter mile N. of *Parkgate*; in crevices of the rocks on both the *Hilbre Islands*.

***C. anglica*, Linn.**

English Scurvy-Grass.

In salt marshes, and on the muddy and vegetation-covered strands from ordinary high-water mark to the limit of tidal influence. *A.* or *B.* April to June. Native. Shore.

2. *Norton Marsh.*

3. Frodsham and Fiddler's Ferry; *Hunt, sp.*, 1862. (Very large; some of the root-leaves with their stalks measure $7\frac{1}{2}$ inches; none are cordate-based.) Frodsham Score.
4. Hilbre Island; *Hall, Flo.* (suggested merely). Wallasey and Bromborough Pools, plentiful; Hilbre Island; *Dick. Flo.* By the drain on Bidston Marsh; Muddy ground by the Mersey, half-way between Eastham Ferry and Bromborough Pool; *Webb.* Salt marsh, Bidston; and Eastham; *Lewis, sp.* A single plant in marshy ground near the tide-mark, just north of Denna Colliery; Navigation Cop, Chester, near county boundary.

5. The Dee shore above Saltney.

Not reported recently from Hilbre, and perhaps a mistake.

Dr. Syme remarks upon our Cheshire plant that it "is much smaller than the South England form, with the leaves more abrupt at the base, often ovate or rhombic-ovate; the pods smaller and shorter in proportion, and apparently without any constriction between the valves;" *E. C. Rep.* 1871. These differences in the direction of *C. officinalis* help to account for the mistake in the records of that species.

[*Var. Hortii, Syme.*

4. Estuary of the Dee at Bromborough; *A. E. Lomax, fide A. H. Wolley Dod.*]

DRABA, Linn.

D. verna, Linn.

Common Whitlow-Grass.

On walls, rock-ledges, hard wastes, banks, hedge-cops, the sandhills, and cultivated ground. *A.* March to May. Native coastwards, grade dubious inland. Local, and uncertain, except near the shore.

1. In a piece of cultivated ground at Chelford Station.
2. Hedge-banks and clover-fields about Sale, Timperley, Altrincham, and Bowdon; *Bux. G.* Walls, Bowdon; *Hunt, sp.* Uncommon; in a clover-field on my own farm (introduced with seed, no doubt); On the lawn at Mobberley Hall; and it is a troublesome weed in Caldwell's Nursery at Knutsford; *Holland.* Hill Cliff and Hollin Hedge, (Daresbury); *Warr. List.* Has appeared for many years in and below the stonework which surrounds the central beds of Tabley front garden.
3. Sandy ground, Linmere Allotment, Delamere Forest; Near Tarvin.
4. Given as frequent in the three Floras. I have Wallasey and Bidston specimens from *Webb*, who says that the plant occurs on walls or rock-cuttings near most of the older villages and farmsteads, *e.g.* Prenton, Caldy, and Willaston, and is plentiful upon the sandhills. [Navigation Cop, Chester; *Chester Society.*]
5. Abundant in cornfields and fallow-land about Chester; *Sidebotham.* Dickson's Nursery, Chester.

Quite likely a large proportion of the inland stations may not be native ones.

Var. β. brachycarpa, Jord.

3. Banks at the east end of Oakmere; *Bickham, in Proc. Manch. L. and P. Soc.* viii. p. 165. Netherton; (*Robinson, sp.*), *Hunt, Hb.*
4. On the top of an old wall at Tranmere; (*Fisher*), *Flo. Liv.* About and on walls at Wallasey and Prenton; (*Fisher*), *App. Flo. Liv.* Prenton; *Webb, sp.*

ALYSSUM, Linn.

A. incanum, Linn.

Common Madwort.

In clover-root-fields, introduced with the seed. *A.* June, July. Alien. Rare as yet.

2. In a clover-field near Mobberley, July 1870; (*Britten*), *J. of B.* ix. (1871), p. 15. Rostherne; (*Fisher*), *ib.* i. N.S. (1872), p. 277.
5. Some plants in a clover-root-field at the top of the range of hills running from Peckforton towards Bolesworth; probably in this district, but might be just in 3.

CAMELINA, Crantz.

C. sativa, Crantz.

Gold-of-Pleasure.

Introduced with foreign seed (usually flax; *vide Bickham*). Alien. One suburban neighbourhood.

2. Bowdon, July 1868; *Bickham, sp.* Bowdon Common in 1870; *Sidebotham, sp.* (Seems to be the *eu-sativa*, *Syme, not fastida.*)

THLASPI, Linn.

T. arvense, Linn.

Field Penny-Cress.

Among crops, and on the neighbouring field-edges and wastes. *A.* June to August. Casual or colonist. Local, and uncertain.

2. A weed in Mr. Shaw's nursery-grounds at Bowdon; Carrington and Partington, occasional; *Sidebotham*; Also a specimen, "Borders of Carrington Moss, 1867."
4. In a field near the river at West Kirby; (*Mrs. S. Boulton*), *Flo. Liv.*, where several Lancashire localities are named.

Under Cheshire in *B. G.*, "Cornfields, frequent; (*Bradbury*)," is recorded for this plant. With present information it can hardly be classed beyond an uncertain casual in the county. It appears to be better established in South Lancashire.

TEESDALIA, Br.

T. nudicaulis, Br.

Teesdale's Shepherd's Cress.

On dry sandy banks, hedge-cops, wastes, and commons. *A.* June. Native. Fairly distributed. Ascends to 500 (?) feet at Delamere.

1. Borders of Lindow (Common); *Gr. Flo.* On sandy banks near Pownall Hall, Wimslow; *Holland.* Red Lion Common.
2. Lane between Hale Moss and Hale Barn; Sandy ground on upper part of Bowdon Moss; *Wood, Flo.* Timperley;

About Bowdon; Between Bucklow Hill and Knutsford; *Buxt. G.* Hill Cliff; *Warr. List.* Weston Hill; (*Okell*), *Lys. M. Brit.* Plentiful in the large sandpits on Knutsford Racecourse; In the lane-sides which leave the Chelford road opposite Booth; and farther on again at Ollerton.

3. Sandbank, Overton, 1867; (*Robinson, sp.*), *Hunt, Hb.* In profusion on banks about Delamere; (*Bickham*), *Proc. Manch. L. and P. Soc.* viii. On banks about the Peckforton Hills; Little Budworth Common; Crabtree Green to Norley road, beyond Stonyford Brook; Broken heathy ground by the Fish Pool, Oakmere; Roadside between Delamere Station and Abbey Arms.
4. Dry banks near Tranmere, Bidston, &c.; (*Watson*), *N. B. G.* Prenton; *Hall, Flo.* Storeton; *Dick. Flo.* Noctorum; Hill Houses (West Kirby) in Lang Lane; *Webb*.
5. On Broxton Hill, apparently general; Gallantry Bank, Bickerton. [Foot of hill near Bickerton Rectory; *A. H. Wolley Dod.*]
7. Road between Congleton and Astbury; (*Watson*), *N. B. G.* Very plentiful about Goostrey; *Holland.* Brereton Heath, and on a sandy patch near the edge of Brookhouse Moss.

CAPSELLA, DC.

C. Bursa-pastoris, *Manch.*

Common Shepherd's Purse.

In cultivated and waste ground of many descriptions; also by waysides, on walls, &c. *A.* Early Spring to early Winter. Native. Generally distributed. Ascends to 900 feet at Redmoor Lane, Disley. Personal records in 1, 2, 3, 4, 5, 6, 7; second-hand records in 1, 2, 3, 4, 5, 6, 7.

LEPIDIDIUM, Linn.

L. latifolium, Linn.

Broad-leaved Pepperwort.

On wastes adjoining cultivated ground near the coast. *P.* July, August. *Alien. Shore.*

4. Hoylake; (*Tudor*), *Hall, Flo.* I saw this growing in a fair-sized patch in the hedge of a high bank on right hand, just out of Hoylake towards Moreton: this was in 1865, and five years later the plant had somewhat increased. The mark of probable introduction used by *Flo. Liv.* is hardly strong enough, although the records carry back forty or fifty years. [*Roadside, Meols; A. E. Lomax, fide A. H. Wolley Dod.*]
5. Shown me by Mr. Newbould on some rubbish below Chester walls, but with gardens all around; really not a much worse station than the above.

L. ruderale, Linn.

Rubbish Pepperwort.

4. Ballast by Great Float, Birkenhead; *Lewis, sp.* New-made roads, Claughton; (*Fisher*), *Flo. Liv.* Is not uncommon as a ships'-ballast plant by the Birkenhead Docks; and when this material is used for road-making, the plant sometimes shows for a year or two on the new roads, and then passes away; *Webb.* The Queen's Ferry locality of *Dick. Flo.* is in Flintshire.

L. sativum, Linn.*Common Cress.*

Occurs as a garden outcast, or as a straggler from garden cultivation, now and then.

2. Altrincham; *Hunt, sp.*
7. Peover Milldam.

L. graminifolium, Linn.

4. Ballast, Seacombe; *Lewis, sp.*

L. campestre, Br.*Field Pepperwort.*

In cultivated fields, and on the neighbouring banks, road-edges, and rubbish heaps. *B.* June to August. Native. Fairly general, except in hilly districts. Personal records in 2, 4, 7; second-hand records in 1 (?), 2, 4, 5, 6.

L. Smithii, Hook.*Smith's Pepperwort.*

On dry roadside and field hedge-banks and wastes. *P.* June to August. Native. Distribution unequal.

2. Hedge-bank beside the canal between Broad Heath Bridge and Seaman's Moss Bridge; Near Sale and Hough End Hall; *Buxt. G.* Side of canal, Timperley, 1857, 1859, 1864; *Hunt, sps.* On a dry hedge-bank on the Warrington road, just on the Knutsford side of High Legh Hall: noticed there for several years; Hedge-banks by the canal between Altrincham and Dunham Massey.
3. In a lane leading down to the river at Weaverham.
4. Borders and edges of fields at Eastham and Rock Ferry; *Dick. Flo.* In a field between Higher Tranmere and Bebbington; Also on a bank after passing through the yard at Noctorum Farm; (*Webb, Flo. Liv.* In one spot by the roadside between Eastham and Hooton Park; (*Shillito, Ib.* West Kirby, frequent; (*Miss Grundy, Ib.* Near Raby, within a dozen yards of the first turn in lane which leaves the road a third of a mile south of Ness and goes to Haddon Hall; *Webb, sp.* The Scrub, north of Gayton Cottage, sparingly.
5. Roadside near Round House Farm, about 2 miles N. of Malpas; Occurs in good quantity a dozen yards out of the county on the Malpas to Whitechurch road; *Webb, sp.* [Chester road near Broxton; *A. H. Wolley Dod.*]
6. Between Crewe and Wybunbury; *Newbould.*

L. Draba, Linn.*Whitlow Pepperwort.*

On rubbish heaps. Alien or casual.

2. Knutsford Racecourse, near Lover's Lane, on rubbish.
4. In a field near Queen's Ferry; (*Shillito, Flo. Liv.* (Doubtless in Flintshire; the "banks of the Dee near Queen's Ferry," locality in *Dick. Flo.*, is certainly in that county.)
5. A field between railway and the river-cop at Rough Hill, near Chester; The river-cop a short distance from the boundary

at Saltney. (Found in both the above neighbouring localities by *E. J. Baillie*, and known by him in the former for several years.)

SENEBIERA, Pers.

S. didyma, Pers.

Lesser Wart-Cress.

On dry, sandy (roadside) hedge-banks and wastes. *A.* Late Summer. Alien. Established in one locality. Shore.

4. Plentiful in sandy lanes near Hoylake; (*Skellon and Marrat*), *Dick. Flo.* This may easily be found by the roadside entering Hoylake from Moreton. Mr. Watson calls the species "half-wild" in our province (*Cyb. Brit.* iii. p. 379), which is about the state of the case. It spreads rapidly as a weed, and is so spreading at Hoylake. Occurs also as a ballast-plant in the neighbourhood of the Birkenhead Docks; (*Gibson and Fisher*), *Flo. Liv.*

S. Coronopus, Poir.

Common Wart-Cress.

By roadsides and on hard, bare wastes in the neighbourhood of the coast. *A.* June to September. Native. Littoral: on mixed clay and sand. Shore.

1. Rubbish heap in a quarry between Staleybridge and Mottram, with many casuals; *Baker.*
 3. The Rake Lane near Helsby Station; Trodden ground, Lordship Lane, Frodsham Marsh.
 4. Around Parkgate (but quite thinning out two miles north of it), and on the hard outer portions of Bidston Marsh, are the chief seats of this in Wirral; It grows also by the South Stoke canal bridge; *Webb.* I have seen this at Parkgate, Wallasey, &c., and it is given (*Flo. Liv.*) as "frequent," the two older Floras using the terms "very abundant" and "common;" Blaen Point.
 5. In the lane under the south boundary wall of the College grounds, Chester; In the field immediately above Lea Hall Farm, near Aldford; *Webb.* Three or four plants on the side of the D. and M. Canal, 200 yards south of Moston Bridge towards Chester; Lea Hall Farm, near Aldford; Frequent about the outskirts of Chester; About Christleton.
- A curious absentee from inland Cheshire. A most universal weed in the south of England. Pity the Cestrian distribution is not more accurately known. A species omitted in the Manchester Floras, and entered as too common for stations in the three Liverpool Floras, would show an interesting intermediate diffusion.

ISATIS, Linn.

I. tinctoria, Linn.

Common Woad.

On waste land. An alien casual, now extinct.

1. Near Broken Brow, Stockport; (*Holme*), *B. G.*

EXCLUDED CRUCIFERÆ.

Malcomia maritima, *Br.*

"Waif from garden culture."

"Chester;" *Comp. Cyb. Brit.* p. 485.

I cannot turn up the memorandum for this. Parkgate?; *Watson*, 1875.

Enarthrocarpus lyratus, *DC.*

1. On a quarry rubbish heap between Staleybridge and Mottram;
Baker, sp.

4. Ballast by the Great Float, Birkenhead; *Lewis, sp.*

RESEDACEÆ.

RESEDA, *Linn.*

R. lutea, *Linn.*

Wild Mignonette.

On light soil wastes. *B.* June, July. Casual in Cheshire? Extinct?

2. Formerly near Bowdon Church in a sand-hole; During 1848 in a field near Jackson's Boat (perhaps in Lancashire); *Buxt. G.* Sandpit, Bowdon, 1857; *Hunt, sp.* Sandy lanes at Statham, near Lymm; (*Mrs. Brownell*), *Gr. Flo.* (Query: a misnomer? same locality given for *R. luteola* in *Add. Gr. Flo.* p. 571.)

5. On a hedge-bank at Boughton, near Chester, many years ago, almost before I had begun to make any difference between plants certainly, or only dubiously wild; *Watson* in *Topog. Bot.*, Part II. p. 597.

R. luteola, *Linn.*

Dyer's Mignonette.

On the sandhills and on banks, wastes, hedge-cops, and in sandy fields not far distant from the coast. *A.* June, July. Native; coast. Common, coast; rare, inland. Shore.

2. Near Hollins Ferry, apparently truly wild; (*J. Martin*), *Buxt. G.* Lane on the river-bank near Statham Pool, below Lymm plentiful, July 1859; *Add. Gr. Flo.*

4. I have seen this between Moreton and Hoylelake, also about Hoylelake itself, and upon the Wallasey sandhills, and in Gayton Lane: evidently not uncommon as a littoral plant, and it is so entered in the Liverpool Floras.

5. In a field leading to Shay Field Lane above Lea Hall Farm, near Aldford; *Webb.* By the Dee Cop, Saltney, sparingly.

6. In ground close to the hedgerow on the N.E. side of Nantwich Park, sparingly; *Lewis.*

Having never seen this plant in Central Cheshire, I must doubt the nativity of the records along the Mersey bank in 2, and probably of the station in 6.

R. suffruticulosa, *Linn.*

Shrubby Mignonette.

Casual. Outcast.

Formerly grew sparingly on a rubbish waste at New Brighton, being evidently of garden origin. A severe frost kills the plant with us; (*Vide Flo. Liv. and Dick. Flo.*).

VIOLACEÆ.

VIOLA, Linn.

V. palustris, Linn.

Marsh Violet.

In boggy places on heaths and mosses, ascending to the high moorland stream-heads, and in swampy ground by ponds and streams. P. May. Native. Thin but even distribution. Ascends to 1700 feet near Moss House, "Cat and Fiddle" road.

1. Godley Green; *Sidebotham, MSS.* Alderley; *Hunt, sp.* Swampy wood at the head of the Furness Vale stream; By a water-course between Goyts Bridge and the Powder Mills; By Shooter's Brook above Castage; Near the "Cat and Fiddle," and among other moorland swamps; In Lyme Park, between the mill and the S.W. gate; In Capesthorpe Park; *Webb.* Lindow Common; Glead Moss, Withington; Crowden, near Woodhead.
2. Frequent: Baguley Moor; Bowdon and Hale Moss, &c.; *Wood, Flo.* Sandy roadside, Bowdon; *Hunt, sp.* Rosethorne Mere; *Gr. Flo.* About Knutsford; *Old Herbal.* Holford Moss; *Holland.* Knutsford Racecourse.
3. Snidley Moor, near Frodsham, 1867; (*Robinson, sp.*), *Hunt, Hb.* A plant or two near the margin of Oakmere; Swampy patches by the roadsides, &c., Linmere Allotment, Delamere Forest; Roadside ditch, Delamere to Hatchmere.
4. Raby; (*Higgins*), *Proc. Liv. L. and P. Soc.* xv. p. 9. In the little swampy field next to Raby Watermill, following the main stream downwards; (*Price*), *L. N. J.* p. 167. The Flaybrick and Bidston Rectory stations of Mr. Price are now quite destroyed, and I only know the Raby (the "*Pinguicula* ground") locality as existent in Wirral; *Webb, MSS.*
5. [Boggy field below Whitney Lane Farm; *A. H. Wolley Dod.*]
6. Wybunbury Moss; Also Blackwater Moss, N.E. of Audlem; and by the side of the lake behind Hatherton Lodge; Abundant in the shallow ditch on the north margin of Little Mere near Marbury; *Webb.*
7. Peover Heath.

V. odorata, Linn.

Sweet Violet.

Under hedges and on roadside banks, &c., generally near dwellings or gardens. P. Spring. Alien? Here and there, mostly as a stray, throughout.

1. Roadside hedge-bank about three miles from Stockport towards Marple (near Offerton Hall, *Gr. Flo.*); *Buxton, G.* Alderley; *Gr. Flo.* Hedge-bank near Lower Pexhill, turning off towards Henbury Hall: clearly suspicious; *Webb.*
2. Ashley; Banks near Castle Mill; Sale; *Hunt, sps.* By the roadside and in the neighbouring field at Peter Partington's house at Ashley, chiefly white; In the narrow lane leading to the Mobberley end of Spring Wood, white; *Holland.* Aston; *Warr. List.*

3. In large clumps on the hedge-banks entering Mouldsworth from the north: a farm is on the other side of the road, but, if introduced thence, the plant is quite naturalised; *Brown*. Bruen Stapleford, south of Tarvin; Near cottage, N. Tiverton: apparently not wild at either station.
4. Birkenhead Churchyard, introduced; (*Watson*), *Hall*, *Flo.* Near Upton village on the road to Moreton, blue; (*Miss Cooke*), *Flo. Liv.* Near Great Meols, and Thurstaston; (*Smith*), *Ib.* Raby Wood, near the Mill; (*Hatcher*), *Ib.* High hedge-bank in "Sycamore Lane," near Leighton Hall, Parkgate (the best station I know); The steep banks by the roadside descending to Shotwick village; *Webb*. One place on the wooded bank at Blacon Point, where probably planted.
5. In plenty on the hedge-banks about Golbourne Belleau Farm, one mile N.E. of Tattenhall; *Webb*. Hedge-bank a short distance north of Carden Green, a good station; *Brown*. Pulford: apparently not wild.
6. Hedge-bank near Belvidere (Wirswall); *Brown*. Base of a garden-hedge at Wirswall; *Webb*.
7. Between Dig Lake Farm on the Buxton road, two miles out of Congleton, and the canal bridge: clearly suspicious; *Webb*.

V. hirta, Linn.

Hairy Violet.

In thickets and shady places, preferring a calcareous soil. *P.* April, May. Error probably; if not an extinction. In one unconfirmed station. Shore.

4. Near Eastham, on the road to Chester; (*H. Shepherd*), *Hall*, *Flo.* "I have never been able to find the plant in this neighbourhood, nor does it, I believe, grow here, if ever it did;" *Supp. Dick. Flo.*

V. Riviniana, Reich.

Common Dog-Violet.

Hedge-banks, coppices, woods, &c. *P.* April to June. Native. Generally distributed. Personal records in 1, 2, 3, 4, 5, 7; second-hand records in 1, 2, 4, 5, 6, 7.

V. Reichenbachiana, Boreau.

Reichenbach's Dog-Violet.

The borders of woods and on shaded banks. *P.* Spring. Native. Chiefly in a limited tract in Bucklow. North Plain.

2. By the river Birkin, near Arden Hall, 1871; Bank near Cotterill Wood, 1871; *Hunt, sp.* Plentiful on the hedge-bank opposite Oversley Ford Farm, and in many shaded places by the Bollin, near Castle Mill, Hale; Also a large patch on the hedge-bank near the gate of Duckinfield Hall, Moberley, conspicuous through growing amongst *Riviniana*; *Holland*.
3. Borders of a wood, Bradley, near Frodsham; (*Robinson*), *App. Flo. Liv.*

The extreme and very distinct form of *Reichenbachiana* flowers at least a fortnight before *Riviniana*; *Holland*.

V. flavicornis, Sm. (Syme).*Dillenius' Dog-Violet.*

A factor of the scanty sod of the sandhill flats, and sometimes amongst the large coarse vegetation of the barer portions. Also on the broken borders of sandy heaths inland. *P.* Early Summer. Native. Generally diffused on the coast. Inland distribution imperfectly known.

2. Heathy sandy ground at Hale Moss; *Hunt, sp.* 1860; also *Buxt. G.* ed. ii. and *Gr. Flo.* The latter adds: the roadside between Bowdon Downs and the old church.
3. Roadside and pathside banks between Mouldsworth Station and Hatchmere; Budworth Common; Newchurch Common; Delamere Station, N.
4. Grows on the south side of the Upton road beyond Cloughton village nearing the Toll-gate: not seen elsewhere inland; (*Webb*), *Flo. Liv.* In continuation of the *Flo. Liv.* statement, a Dee coast locality is the sandy portion of the Heswell Shore Heath; Also "the Scrub" between there and Gayton Cottage, 1873; *Webb*. This is the New Brighton plant, under the names *V. pumila, Vill.*, and *V. lactea, Sm.*, of *Dick. Flo.* In *Flo. Liv.* it is stated to be frequent on the sandhills from New Brighton to West Kirby, in some places (as below Wallasey) in abundance, in other parts scarce. I have seen it several times on the Channel coast, &c. Another station is by the corner to Bleaky Brow from road west of Bromborough Station.

I qualify "Smith" as the authority for the name by "Syme," that I may, without dispute, include the full range of the plant from the large sandhill form, to which the name *V. canina* is now attached by our botanists, to the dwarf form, which is technically the *V. flavicornis, Sm.*

Will no doubt occur on many of the drier inland heaths, *e.g.* Rudheath, where I am nearly certain I have seen it, but do not like to record.

V. tricolor, "Linn." (*V. eu-tricolor, Syme*).*Large-flowered Pansy-Violet.*

In arable land, hedge-banks, newly-reclaimed peaty fields, and pastures by brook-sides. *A.* Summer and Autumn. Native. Frequent in Bucklow and North Northwich. Not so in Wirral. Intermediate distribution imperfectly known.

1. A wheat stubble-field above the road near the S.W. entrance to Lyme Park, in profusion 1874; Hedge-bank by Pexhill Farm, 2½ miles S.W. of Macclesfield; *Webb*.
2. Very common; *Buxt. G.* Fields, Bowdon; *Hunt, sp.* Common in neighbourhood of Tabley, *e.g.* at Holford, and Clay House Farm, near the brook; Banks of the Bollin below Castle Mill, Ashley.
3. Weaverham; Lane-sides, &c., near Oulton Mill.
4. "Frequent," according to the three Liverpool Floras. I have not happened to meet with it myself in Wirral. (Sparing if not rare in Wirral, as far as my present experience goes;

I have seen it now and again in cornfields, and that is all;
Webb, MSS.)

7. Lower Peover Mill; thence along Peover Brook to Holford.
 Decidedly rare in the county.

V. arvensis, Murr.

Small-flowered Pansy-Violet.

A weed in cultivated ground and on light soil wastes. *A.* Summer and Autumn. Native. Generally distributed. Ascends to 800 feet near Jenkin Chapel. Personal records in 2, 3, 4, 5, 6, 7; second-hand records in 1, 2, 4, 5, 6, 7.

V. Curtisii, Forst.

Sandhill Pansy-Violet.

In the scanty turf and amongst the dwarf bushes on the flats of the coast sandhills. *P.* Summer. Native. Confined to, say, a mile of Channel coast. Shore.

4. Sandhills at New Brighton; (*Sansom*), *Dick. Flo.* No additional station is named for Cheshire in *Flo. Liv.*, and Mr. Webb says (1873): "I fear this must be considered lost in the handy station at New Brighton, as, apart from having become scarce through over-gathering, the ground is in process of levelling, and when I last looked I could not find a specimen. Now and again for years past I have met with a plant or two under Wallasey; and Mr. Lewis and I have just seen it in large quantity amongst bushes of *Rosa spinosissima*, &c., over an extensive tract on the seaward side of the sandhills a third of a mile or so west of the 'Red Noses.' It is met with pretty frequently on the Lancashire side, and there the yellow form also grows. Ours is all the *var. Mackii*, the *V. sabulosa* of Boreau." I have specimens from below Wallasey, May 1873 (*Webb*), and from the station last mentioned in Mr. Webb's note, from Mr. Lewis, June 1873.

I follow *Flo. Liv.* in adding that more than ten years previous to this plant being recorded in the *Phytologist*, vol. iii. (1848), p. 46, as occurring at New Brighton through specimens sent by Mr. Sansom to the Botanical Society, it had been clearly distinguished from *V. tricolor* by Mr. H. Shepherd, and both Mr. W. Wilson and Mr. Hall had an idea that it belonged to *V. Curtisii*.

V. lutea, Huds.

Mountain Pansy-Violet.

In hilly pastures and on roadside grassy banks and wastes, chiefly overlying millstone grit. *P.* Summer and Autumn. Native. Here and there sparsely in the mountainous portion. Hills. Ascends to 1350 feet at Whaley Moor.

1. On the (Cheshire) hills near Derbyshire; (*Okell*), *Lys. M. Brit.* p. 415. A pasture field near Staley Brushes sparingly; *Bux. G.* Shutlings Low in plenty; *Holland.* Banks near Macclesfield; *Hunt, sp.* Close to the summit of Whaley Moor; Grassy margin of the section of "Roman Road" that connects Ewrin Lane with the main road a mile N.E. of Rainow; Near to the footway over Sponds Hill; *Webb, sp.*

DROSERACEÆ.

DROSERA, Linn.

D. rotundifolia, Linn.*Round-leaved Sundew.*

On spongy heaths, the mosses, and moorland swamps. *P.* July, August. Native. Generally distributed. Ascends to 500 ? feet at Danes Moss. Personal records in 1, 2, 3, 5, 6, 7; second-hand records in 1, 2, 3, 4, [5], 6.

D. anglica, Linn.*Great Sundew.*

On the sphagnum parts of (originally large) mosses and on the deep swamps of the peat lands. *P.* July, August. Native. In the large mosses.

1. Lindow Common; *Buxt. G.* On Lindow Common, say, 200 yards due west of "Leycester's Firs."
2. Stretton Moss; *Warr. List.* Carrington Moss; *Wood, Flo.* and *Hunt, sp.* Carrington Moss on the N.E. side.
3. Plentiful round Oakmere: very large in the dry summer of 1868; *Holland*, also *Melville* and *Jebb.* Swamp, N.W. Hatchmere, very sparingly. I gathered a specimen as above, and had it growing for a short time, but I could not on two future visits find even a single other. It was, too, this year unobtainable at Oakmere, where it was gathered in 1874 by Mr. Siddall.
6. Wybunbury Bog; (*Spark*), *Garner, N. H. Staff.* Ditto, 1873; *Webb, sp.* 1874; *Fraser and Thompson, sp.* [(*Melville*), *E. C. Rep.* 1877-78.]
7. In a marsh on a heath near Holmes Chapel; (*Hunter*), *With.* Arr. ed. iii. (1796).

D. intermedia, Hayne.*Intermediate Sundew.*

On spongy, sandy heaths, particularly in bare places where water has stood, and in the "solid" parts of the mosses. *P.* July, August. Native. Local and unequal distribution. Plain and shore.

1. On Lindow Common; *Buxt. G.* Lindow End; *Hunt, sp.* Moors above Staley Wood; (*Bradbury*), *B. G.*
2. Carrington Moss and Baguley Moor; *Wood, Flo.* Baguley Moor; (*Arthur Henfrey, Bot. Soc. London*, 1837), *Watson.* Knutsford Moor; (*Aikin*), *With.* Arr. ed. iii. 1796. Also Knutsford and other Moors; (*Howard*), *B. G.*
3. Delamere; *Egerton.* Oakmere; (*Robinson, sp.*), *Hunt, Hb.* Achmere; *Hunt, sp.* Swamp N.W. of Hatchmere; Swamp near railway bridge N.W. corner Newchurch Common.
4. Bidston Heath; *Hall, Flo.* Heswell Hills; (*Miss Potts*), *Id.* Still to be found in fair quantity on the wet south-west part of Oxtun Heath; there used to be plenty on Frankby Heath; *Webb.*
6. Wybunbury Moss, 1874; *Fraser and Thompson, sp.*

POLYGALACEÆ.

POLYGALA, Linn.

P. vulgaris, Koch.*Upright Milkwort.*

On the sandhills forming part of scanty sod with *Galium verum*, *Thymus*, *Viola flavicornis*, &c., and on grassy banks and field-edges inland. P. May to July. Native. Distribution imperfectly known.

Var. a. genuina, Syme.

2. On grassy field-slopes on the Bucklow side of Peover Eye Brook, below Holford Hall, near Northwich.
7. By Peover Brook, nearer Lower Peover on the Northwich side.

This variety, or rather this the type form, is stated in *Flo. Liv.* to be of occasional occurrence in its district. As far as the Cheshire portion is concerned, subsequent information shows that the inland as well as the coast plant ranges to *var. oxyptera* (q. v.).

Var. γ. oxyptera, Syme (P. oxyptera, Reich.).

1. Lyme Park, and High Lane, Disley; *Sidebotham*. (Communicated as *P. vulgaris* in distinction to *P. depressa*. Mr. Webb's mature specimens from the same neighbourhood show the plant to be this variety.) Field-edge above the left-hand wall half-way between Whaley Bridge and Furness Vale; *Webb, sp.* East side of Werneth Low descending to Compstall.
 4. "Gathered by myself at Seacombe in September 1837;" *Babington, E. B.* 2827. Recorded in *Supp. Dick Flo.* by Mr. Fisher from the Lancashire sandhills, and specimens collected by him distributed in Mr. Baker's "Fasciculus of Critical Plants" about 1854. Hoylelake; (*Webb*), *Flo. Liv.* Wallasey; (*Lewis*), *E. C. Rep.* 1871. New Brighton; (*Webb*), *App. Flo. Liv.* Heswell Shore Heath, and at north part of the "Scrub" towards Gayton Cottage; *Webb*. Margin of a pit adjoining the lane from the Toll-gate west of Hooton Station towards Hargrave Hill in Mid-Wirral; *Brown, sp.*
 6. Grassy ground by the side of the road E. of the railway near Basford Station; *Webb*.
- Distribution very imperfectly known.

P. depressa, Wender.*Heath Milkwort.*

Heaths, commons, rough short-turfed pastures, &c. P. June to August. Native. Generally distributed. Ascends to 1000 feet above Knipe Farm in I. Personal records in 1, 2, 3, 4, 5, 7; second-hand records in 1, 2, 3, 4, [5], 7.

With the exception that Mr. Hunt communicates *P. depressa* to *Gr. Flo.* from Hale Moss, the Manchester Floras and the two earlier Liverpool Floras enter the whole of the *Polygala* of their

respective districts to *P. vulgaris*. In *Supp. Dick. Flo.* the present plant is mentioned by Mr. Fisher from the Lancashire side, and in *Flo. Liv.* it is separated and given as "common." There is no doubt that the great bulk of our Cheshire plant belongs here, and that it is common through the county in suitable localities.

CARYOPHYLLÆ.

DIANTHUS, Linn.

D. Armeria, Linn.

Deptford Pink.

With the growing crop in cornfields. *A.* Summer, Autumn. Alien and casual. Extinct.

4. Abundant in a cornfield at Little Sutton; (*Slack*), *Hall, Flo.* (This record refers to about the year 1838, and it has not been reported subsequently in Wirral.) Chester; (*Miss Potts*), *Topog. Bot.* Near Moston; (*Miss Potts*), *Wood in Phyt. i.* p. 280.

D. deltoides, Linn.

Maiden Pink.

On bush-grown banks and the edges of rough dry pastures. *P.* July, August. Native. Local. Shore.

4. Not far from West Kirby Church, growing very luxuriantly; *Lys. M. Brit.* Near Wallasey Church; (*J. Shepherd, Hb.*), *Hall, Flo.* Among gorse bushes by the side of Wallasey Pool, about 1835; (*H. Shepherd*), *Hall, Flo.* In the third field below West Kirby Church; (*Webb*), *Proc. Liv. L. and P. Soc.* xvi. p. 12; and in one or two other fields near there; (*Mrs. S. Boulton*), *Flo. Liv.* In hedges between Liscard village and New Brighton; (*Smith*), *Proc. Hist. Soc.* i. N.S. p. 68. Queen's Park, Chester; *Cross*, who, I believe, thought it might have been introduced there with gravel.

SAPONARIA, Linn.

S. officinalis, Linn.

Common Soapwort.

Near villages or dwellings, generally by the roadsides or on wastes; sometimes along the banks of neighbouring streams. *P.* Late Summer, Autumn. Alien, and usually an escape. Here and there near the coast, on the Forest, and by the inland course of Mersey. North and Mid Plain.

1. On the left bank of the Mersey between Northen and Cheadle; *Wood, Flo. and Buxt. G.* Also near Stockport; (*Holme*), *B. G.* On the river bank in Marple Vale, near Hollins Ferry; *Buxt. G. and Gr. Flo.*
3. On the roadside just under Delamere Church; (*Bickham*), *Proc. Manch. L. and P. Soc.* viii. p. 166. Near Abbey Arms, 1869; (*Bickham, sp.*), *Hunt, Hb.* Roadside near a cottage between Little Budworth and Over; (*Anon.*), *Phyt. iii.* N.S. p. 249.

4. Wirral; (*Watson*), *Hall, Flo.* Bidston village (and church-yard); (*H. Shepherd*), *Ib.* Hoylake; (*Skellon*), *Dick. Flo.* Heswell; (*Mrs. S. Boulton and Miss Grundy*), *Flo. Liv.* Wall near Prenton Hall; (*Fisher and Marrat*), *Ib.* The earth and stone field-fences between the Hill Houses (West Kirby) and Little Meols; (*Webb*), *App. Flo. Liv. and MSS.* Spreads best on light soil.

S. Vaccaria, Linn.

A casual.

2. Bowdon; (*Sidebotham*), *fide Bickham, Proc. Manch. L. and P. Soc.* viii. p. 170.
4. On Ballast-made roads at Cloughton and Birkenhead; (*Mrs. F. Boulton and Fisher*), *Flo. Liv.*

SILENE, Linn.

S. inflata, Linn.

Bladder Catchfly.

On the banks and in the hedges by roadsides, also about field-edges and on wastes and rubbish heaps. *P. Summer.* Native? Chiefly littoral.

1. In the lane near Arden Mill; Fields near Marple Hall; *Buxton G.* A single plant seen by the conduit in the clough above Whaley Bridge reservoir; *Webb.* Abundant in the wash-fields surrounding the new copper-mine at Alderley; (*Miss Hopps*), *Add. Gr. Flo.* On rubbish at Chelford Station, evidently introduced.
2. On the way from Sale to Carrington Moss, sparingly; *Gr. Flo.* Hedge-bank, Timperley, near the station, sparingly; *Hunt, sp. 1858*, and *Gr. Flo.* In a plantation on the N. side of Carrington Moss, in suspicious company of some garden outcasts.
3. Near Oakmere.
4. Woodside; *Hall, Flo.* Eastham, in fields by the river on the New Ferry side; (*Watson*), *Ib.* About Bidston; *Dick. Flo.* Near Wallasey stone quarry; (*Skellon*), *Ib.* In the lanes about Willaston Mill; The old Chester road on the south side of the Parkgate railway, extending over a quarter-mile; In the lane west from Haddon Hall to the Ness and Barton road; *Webb.* Neston Station; and the Denna Colliery, S. of Parkgate.
5. By the railway bridge in Frog Lane, Tattenhall; *Lewis.* Roadside two miles west of Chester; *Webb.* Near Broxton village: native?.

This common southern plant is rare and uncertain, and usually suspiciously placed in inland Cheshire. It seems native, or at least colonist, in districts 3, 4, and 5. Where I have seen it personally in 1, 2 (and perhaps 5), it appeared introduced with railway works, &c.

Var. β. puberula.

1. Near Otterspool Bridge; *Chapple*: quite wild looking.
3. Roadside between Ince Railway Station and Elton Green;

Brown, sp. Lane, Clay Lane Farm, near Little Budworth; Roadside south from Cuddington Station; Roadside N. of Spurstow; On rock-cutting by Barrow Station.

4. Amongst furze near Clatterbridge Toll-bar; (*Shillito*), *Supp. Dick Flo.* Roadside at Ness and about Parkgate; (*Brown*), *App. Flo. Liv.* In three or four places between Willaston and Neston; (*Webb*), *Ib.* Extreme, and passing into the ordinary form in lanes near Willaston Mill; *Id.* Blacon Point road, Chester; Thornton Grange; Neston.

5. Rubbish heap, Lache Lane, Chester.

The var. *β. puberula* is most certainly not worth separating. Most of the above-mentioned specimens work technically to it.

***S. maritima*, With.**

Sea-Catchfly.

On rocks by the sea and amongst the sand and shingle of the shore. *P.* Summer. Native. Locally dotted along the Dee coast. Shore.

4. Sparingly in a sandy spot on the shore between Tranmere and Rock Ferry (now lost); *Flo. Liv.*, and very abundant on the rocks at Hilbre Island; *Hall, Flo.* Dee banks, abundant; *Dick. Flo.* On the rocks at Burton Point; (*Fisher*), *Flo. Liv.* One of the most prevalent rock-plants of Hilbre Island and the Middle Island. I have also seen it on Burton Point, as well as half-a-mile N. of Parkgate, and in several spots on Dee bank farther on.

***S. anglica*, Linn.**

English Catchfly.

Amongst grain crops in sandy ground by the coast, and occasionally about the neighbouring field-edges, lanes, and wastes. *A.* Summer. Colonist or native? Confined to a small coast tract. Shore.

4. In a narrow lane leading from Bidston Church to the shore, and occasionally among the sandhills towards New Brighton; (*Watson*), *Hall, Flo.* and *N. B. G.* Heswell Hills; (*Miss Potts*), *Hall, Flo.* In a rye-field through which the path-way from Hoylake to West Kirby passes, abundant 1860 and 1861; (*Webb and Fisher*), *Proc. Liv. L. and P. Soc.* xv. p. 9. In fields at Great and Little Meols, abundant 1861; (*Smith*), *Flo. Liv.*

***S. quinquevulnera*, Linn.**

Variegated Catchfly.

"In sandy places. Rare in England, and probably only escaped from cultivation;" *Syme, E. B.* *A.* Summer. Casual. Sown with foreign seed.

4. Hoylake in 1829; (*J. Shepherd in Herb.*), *Hall, Flo.* Sandy lanes about Hoylake, but not common; In a fir-wood near Bidston, very dwarfish; (*Skellon*), *Dick. Flo.* (*Note.*—*Flo. Liv.* says these localities "properly apply to *S. anglica*." West Kirby; (*Miss Grundy in Herb. Fisher*), *App. Flo. Liv.*

***S. noctiflora*, Linn.**

A. Summer. Colonist. One locality.

3. Close to the entrance to a large reclaimed field, one-third of a mile E.S.E. of Delamere Station (the site of "Long Ridge

Allotment" of Ord. Map). Found and recognised by Mr. G. Cross, who told me of it. The site is suspicious, otherwise the style of locality is suitable. I could not help connecting the plant with the evidently sown grass crop.

S. Armeria, Linn.

Lobel's Catchfly.

"Common in gardens;" *Withering*. "Commonly cultivated in gardens;" *Watson, N. B. G.*

5. A Chester station has been given for this plant in many of our botany books, e.g. *With. Arr.* eds. iii. iv. v. vi.; *B. G.* p. 114; *E. B.* 1398; *Smith, Eng. Fl.* ii. p. 296; *Hook. Br. Fl.* ed. iii., &c., all based upon the following record in *R. Syn.* ed. iii. p. 341: "*Lychnis viscosa purpurea latifolia lævis* (C. Bauhin). On the banks of the river half-a-mile below Chester. *Dr. Richardson.*"

Dr. Richardson probably saw the plant when he went to meet Sherard at Chester in June 1718 for a botanical trip into Wales, or it may have been at an earlier visit; at any rate, the plant has been extinct in the place indicated for more than a century. In a MS. "Journal of a Botanical Excursion in Wales in the Year 1775," by Rev. John Lightfoot (Banksian Lib. in Brit. Mus.), under date Friday, August 13, he writes: "Searched the banks of the river below Chester in vain for the *Silene Armeria*, said to grow there. I think the plant ought to be erased out of the British Catalogue."

LYCHNIS, Linn.

L. vespertina, Sibth.

White Campion.

In cultivated fields; also about the borders of fields, by roadsides, and on sandy wastes. *B.* or *P.* Summer, Autumn. Native. Thin inland distribution, increasing in frequency coastwards. Personal records in 1, 2, 3, 4, 7; second-hand records in 1, 2, 4, 5, 6.

L. diurna, Sibth.

Red Campion.

In woods, on hedge and ditch banks, bushy wastes, &c., showing a decided preference for shade. *P.* Spring, Summer. Native. Generally distributed. Personal records in 2, 3, 4, 6, 7; second-hand records in 1, 2, 3, 4, 5, 6, 7.

L. Flos-cuculi, Linn.

Ragged-Robin Campion.

In wet meadows and on mosses; also by the sides of ditches, ponds, &c. *P.* May, June. Native. Generally distributed. Personal records in 1, 2, 3, 4, 6, 7; second-hand records in 1, 2, 3, 4, 5, 6.

L. Githago, Lam.

Corncockle Campion.

A cornfield weed. *A.* Summer. Native or colonist. Thinly distributed; becoming scarcer and more uncertain year by year. Personal records in 2, 4, 7; second-hand records in 1, 2, 3, 4.

Local in my home district. I used to find only two or three plants a season in the fields round Tabley.

MÆNCHIA, Ehrh.**M. erecta, Sm.***Upright Mænchia.*

On dry banks and short-turfed rocky or sandy pasture ground, commons, and wastes. *A.* Spring. Native. Littoral and local.

4. In several places around Bidston; Also on the inland side of the sandhills between Leasowe and New Brighton (particularly opposite Bidston), and about New Ferry; (*Watson*), *N. B. G.*, and *Hall, Flo.* Abundant near Bidston Telegraph Station; *Dick, Flo.* (Close to the windmill is the best place; *Flo. Liv.*) In a sandy lane not far from Lower Bebbington on the road to Parkgate; (*Shillito*), *Flo. Liv.* Roadside at Grange, at junction of the roads leading to West Kirby and the Hill Houses; (*Field Club*), *Ib.* I saw it plentifully at the *Flo. Liv.* "Grange" locality in September 1867: it grew on the N.W. side of a little patch of rocky common; Small gravelly waste at beginning of the lane from Raby Pool to Bleaky Brow.

Mænchia certainly exists at present at the Bidston windmill and the Grange localities; the other stations (except the last) would be better for recent confirmation.

CERASTIUM, Linn.**C. tetrandrum, Curt.***Seaside Mouse-Ear.*

On the sandhills, and on sandy wastes, hedge-cops, and old stone walls, near to the coast. *A.* Early Summer. Native. Channel and Dee coast chiefly. Shore.

4. Sandhills on the coast; Also near the shore between Tranmere and Seacombe; (*Watson*), *N. B. G.* and *Hall, Flo.* Common on the coast where sandy: the best specimens are obtainable inland of the sandhills about West Kirby and Hoylake; Grows on a wall at Bidston Toll-gate, but not common inland, and I do not remember it in East Wirral; *Webb, sp.* Not uncommon between Wallasey and Leasowe on the sandhills.

C. semidecandrum, Linn.*Small Mouse-Ear.*

On heaths, walls, dry banks, and wastes, the sandhills, &c. *A.* Spring. Native. Probably thinly distributed inland, becoming common coastwards.

2. On the bridge over the Mersey between Stratford and Cross Street; *Burt. G.* Bowdon, on the sandy part of the Chester road close to Green Lane, 1861; *Hunt. sp.* On Knutsford Racecourse near the Pound; Crossford Bridge.
3. Near Oakmere, and by the roadside near the Abbey Arms, Delamere Forest; Also on the Peckforton Hills; Banks of Beeston Castle grounds; Banks, wastes, &c., in Delamere Forest, common.
4. Between Wallasey and Leasowe, &c., frequent; and it is given as a common plant in the littoral Floras, no stations

being quoted. (I consider "frequent" quite correct for Wirral; *Webb*.)

5. In bare places on the dry top of Bickerton Hill, overlooking Broxton; Tattenhall Station.

I am imperfectly acquainted with the inland distribution of this species, but my own records seem to point to its being thinly but equally distributed throughout Cheshire in suitable places for its growth.

C. glomeratum, Thuill.

Dense-headed Mouse-Ear.

The sides of roads, wastes, dry banks, walls, &c.; also cultivated ground. *A.* Spring, Autumn. Native. Fairly general, but unequally distributed. Ascends to 900 feet at Longside, Disley. Personal records in 2, 3, 4, 6, 7; second-hand records in 1, 2, 4, 5, 6.

Scarce in 1 and 6 and 7, as far as I know and can judge; *Webb*.

The stations for this species are chiefly confined to the south, west, and south-west of Manchester; *Buxt. G.*

C. triviale, Link.

Narrow-leaved Mouse-Ear.

In waste grassy places, also by roadsides, on walls, in pastures, &c. *P.* Spring to September. Native. Generally distributed. Ascends to 1750 feet at the "Cat and Fiddle." Personal records in 1, 2, 3, 4, 5, 6, 7; second-hand records in 1, 2, 4, 5, 6, 7.

C. arvense, Linn.

Field Mouse-Ear.

On dry (usually sandy) banks, hedge-cops, and field-edges. *P.* May to July. Native. Local (in two tracts).

3. In several places round Oakmere on the sandy hedge-banks of the lanes leading to the lake; (*Bickham*), *Proc. Manch. L. and P. Soc.* viii. p. 166; also *sp. June 1868*. On a sandy hedge-bank at the summit of Overton Hills; (*Robinson*), *App. Flo. Liv.* Field-cop running down to the N.E. side of Fish Pool, Delamere; Also in the turf of the adjoining field.
4. Hilbre Island, sparingly; (*Gibson*), *Proc. Liv. L. and P. Soc.* xvi. p. 12. Ditto; (*T. D. Walker*), *Flo. Liv.* Banks of the Dee, West Kirby; (*Miss Grundy*), *Proc. Hist. Soc.* vi. N.S. p. 256. Also below Caldy, sparingly; (*Webb*), *Flo. Liv.* In a field, afterwards ploughed up, near the four lane-ends between Thurstaston and Caldy, abundantly, 1862; (*Mrs. S. Boulton*), *ib.* (I believe now lost in all these localities; *Webb*.)

STELLARIA, Linn.

S. aquatica, Scop.

Water Stitchwort.

By the sides of streams and trenches, spreading through the adjoining herbage, and in shallow ditches under hedges. *P.* Summer and Autumn. Native. Local.

2. By the stream between the river Birkin and Rostherne Mere, 1864; and again, woods near Rostherne Mere by a stream-

side, 1868; *Hunt, sp.* (Note: Mr. Bickham describes the locality as the banks of the stream flowing out at the S.E. corner of the Mere, a little before its junction with the Birkin, and informs me that the plant was there in 1872.)

3. On mud cleared from the drains on the "Moors" between Thornton and the river, towards Stoke; *Newbould and Webb*. Gowy banks under Little Barrow.
4. I found this in abundance near Stoke; (*Shillito*), *Flo. Liv.* (Note: Stoke is in this Hundred, but is within half-a-mile of both 3 and 5.)
5. Sparingly on the Broxton side of the Gowy, where it is crossed by a small bridge between Guilden Sutton and Great Barrow; *Webb*. Near Mickle Trafford; *Jebb*. In a lane near Chester; *Price*. Ditch in lane about a quarter-mile from Caughall towards Wervin; *Brown*. Ditch between Morris Lake Bridge and Barton; *Id.* Near the Gowy, E. of Guilden Sutton; On mud from the trenches on the Lache Eye, near Chester; Ditch, &c., of a field below Butter Bach, near Chester, where found by *Mr. Griffith*. [Brook near Grafton Hall, rare; *A. H. Wolley Dod.*]
6. Ditch by main road about half-a-mile from Crewe towards Nantwich; *Lewis*. Banks of the Weaver between Wrenbury and Pinsley Green; *Brown*. Both banks of the stream crossed in going from Hankelow to the canal; In the "salt-spring" meadow near Audlem; Hedge-bottom at Crewe Green, near Crewe; *Webb*.
7. Between the railway bridge and the bridge over the Wheelock, on the road from Winterley to Ettiley Heath; *Webb*.

S. nemorum, Linn.

Wood Stitchwort.

In woods, wooded cloughs, and on the bush-grown banks of streams. P. Summer. Native. Montane, Mersey, and Goyt drainage. Ascends to 550 feet at Marple.

1. Shady woods near Stockport; (*Holme*), *B. G.* Banks of the river and woods in Marple Vale, plentiful; *Buxton, G.* Wood near Bottoms Hall, near Hattersley, below Mottram; (*Tinker, Hb.!*), *Baker*. Bredbury Wood, near Hyde; *Sidebotham*. In the swampy ground bordering the osier beds, and on the moist wood-covered banks at the higher part of Gatley Carrs, plentiful; Apethorne Wood, near Hyde.
2. By the river Bollin, below the Vicarage at Bowdon, 1864; Woods, Bowdon, 1868; Ashley Woods, 1857; *Hunt, sp.* In Ashley Meadows, by the banks of the Bollin; *Melville*. Cotterill Clough is a good locality for this; *Sidebotham*.

My "Apethorne" Wood is the "Bredbury" Wood of the Manchester folks; it is barely within the parish of Bredbury, and persons living within a quarter of a mile never heard the name of "Bredbury" Wood applied to it.

S. media, With.*Chickweed Stitchwort.*

In cultivated and waste ground of almost all descriptions. *A.* Early Spring to early Winter. Native. Generally distributed. Ascends to 1750 feet at "Cat and Fiddle." Personal records in 2, 3, 4, 5, 6, 7; second-hand records in 1, 2, 3, 4, 5, 6, 7.

There is a fine series of this species in the Hunt herbarium, chiefly collected near Bowdon.

Var. β. Borœana, Jord.

4. Sandy ground near the sea, frequent; (*Webb*), *Flo. Liv.* On the Cheshire side I have seen it about Hoylake, West Kirby, and, I think, Wallasey; *Webb, MSS.*

Var. γ. neglecta, Weihe.

2. Woods and moist shady places, common; *Buxt. G.* Cotterill Clough; *Wood, Flo., note.* Banks of Bollin; *Hunt, sp., and Melvill.* Bollin Valley; *Holland and Britten.*
3. On hedge-banks about Acton; *Webb.*

Sub-sp. umbrosa, Opitz.

3. Dean Bank road, Beeston Castle; Hedge-bank of first field between Beeston Moss and Hey Croft.

S. Holostea, Linn.*Greater Stitchwort.*

On shady banks, in woods, &c.; also in hedges and about the borders of fields. *P.* Spring and early Summer. Native. Generally distributed. Personal records in 1, 2, 3, 4, 5, 6, 7; second-hand records in 1, 2, 4, 5, 6, 7.

S. glauca, With.*Glaucous Stitchwort.*

In marshy plashes and trenches. *P.* Summer. Native. No certain or existent record.

Chester; (*Rev. G. Gordon, MSS.*), *Topog. Bot. Part. i.*

Mr. Watson kindly sends these further particulars:—

"*Stellaria glauca*,

'N. Wales,' corrected into 'Cheshire, 1832.'"

"Above is extracted from an old series of notes on plant localities, written forty years ago by the Rev. Geo. Gordon. The habitat had been originally written 'N. Wales,' and afterwards corrected into 'Cheshire' by Dr. Gordon's own hand. Observe that in *Topog. Bot.* the county of Denbigh also stands on Gordon's authority. I have not found his own note which warrants that county; it may have been by letter not kept. Possibly one single locality may have been doubled into two counties, or possibly, further, a misnomer of specific name. This latter is not likely, because *Stellaria glauca* is an Edinburgh species; and Dr. Gordon knew the plants found about Edinburgh."

I may also add another solution, that Dr. Gordon noted the species somewhere in the Pulford district, where the boundary

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between Cheshire and Denbighshire is vague and puzzling. In making notes for Mr. Watson it was first entered as Welsh, then a map was turned to, the error discovered, and hence the erasure. In my own case, I originally published *Blysmus rufus* as a Cheshire plant at Sealands, near Shotwick. This I found subsequently was Flintshire. I subsequently found the species clearly in Cheshire, below Puddington. Hence in *Topog. Bot.* I vouch both for Flint and Cheshire.

It remains to add that several localities exist for the species across Mersey, on the Lancashire side; 1866 seems to have been the last year in which it was found. All these stations refer, as *Flo. Liv.* remarks, to one limited tract of ground.

S. graminea, Linn.

Grassy Stitchwort.

On hedge-banks, heaths, bushy wastes, thickets, &c. *P.* Summer. Native. Generally distributed. Ascends to 1750 feet at "Cat and Fiddle." Personal records in 2, 3, 4, 7; second-hand records in 1, 2, 4, 5, 6, 7.

S. uliginosa, Murr.

Bog Stitchwort.

In marshes, ditches, and other wet and boggy situations. *A.* Summer. Native. Generally distributed. Personal records in 1, 2, 3, 5; second-hand records in 1, 2, 4, 5, 6, 7.

ARENARIA. Linn.

A. serpyllifolia, Linn.

A. Summer. Native. Chiefly in the western part of the county.

3. Sterile pasture top of Helsby Hill; Near Mouldsworth Station; Delamere Station; By the Fish Pool, Oakmere; Beeston Castle; Cuddington; Spurstow.
4. A common sandhill plant, observed at Wallasey, New Brighton, Hoylake and Parkgate, and as such considered in the three Floras; Waste by Sealands road, near Chester; Little Soughall; Blacon Point; The Cop, Chester.
5. Chester town-walls, near the Cathedral, &c.; The Cop, Chester; Christleton; Near Dodleston.
6. In a stubble-field half-a-mile from Wybunbury on the Lea Hall road; *Webb*. On a bridge near Wrenbury Station.

Var. β. leptoclados, Syme (= A. leptoclados, Gussone).

3. *Alvanley*; (*Robinson*), *Flo. Liv.*
4. *Burton*; (*Miss Grundy*), *Flo. Liv.* In plenty in a potato-field at the base of the rising ground (near the boundary) half-way between Little and Great Soughall: typical; 1873; *Newbould and Webb, sp.*
5. Chester town-walls overlooking the Rood Eye, one specimen. [Wall by Duckington Farm, certainly much commoner than the type, which I do not at present recollect seeing; *A. H. Wolley Dod.*]
6. Near the corner of the first road to the right from the main road E. from Basford Station; *Webb*.

HONKENYA, Ehrh.**H. peploides, Ehrh.***Sea-Purslane.*

Amongst sand and shingle by the shore a little above high-water line. P. Summer and Autumn. Native. Generally diffused on the Dee and Channel coasts. Shore.

4. Shore of the Mersey at Wallasey Pool and elsewhere; (*Watson*), *N. B. G.* Shore both N. and S. of Parkgate, plentiful. The Floras do not name special stations except that *Dick. Flo.* mentions Hoylake. *Flo. Liv.* simply says "Sandy seashores, common." Mr. Webb says: "As far as recollection serves, the plant occurs on the Cheshire seaboard wherever you get a mixed dry-sand and shingle beach between high-water and the coast proper, be it sandhill or cliff or low ground; from the lack of such a site up Mersey the species is now confined to the N. and W. coasts."

ALSINE, Wahl.**A. verna, Linn.***Vernal Sandwort.*

One old and unconfirmed record: an error?

1. "A. verna γ. High pastures at Staley; (*Bradbury*)," *B. G.* This old record has never been confirmed, and the plant is not included in the Manchester Floras. Mr. Baker remarks that the ground indicated appears to him unlikely, and I think it will be more prudent to consider an error has been made in entering the species rather than that it *did* occur and is now lost to us. Nevertheless it should be borne in mind. It grows in Derbyshire.

SAGINA, Linn.**S. maritima, Don.***Sea-Pearlwort.*

On the tidal shores, and about wall bases, the edges of paths, on rocks, on hard-baked wastes, &c., near to the sea. A. June to August. Native. Fairly general on the three coasts and in one or two tidal stations high up Mersey. Shore.

2. Runcorn Gap; *Wilson in Phyt. i.* p. 234. "Three and a half miles nearer Warrington than Runcorn Gap;" (*G. Crozier, sp.*), *S. Gibson in Phyt. i.* p. 293. By the river at the east extremity of Norton Marsh.
3. The shore under Ince Hall.
4. *Hall. Flo.* specifies New Brighton; *Dick. Flo.* mentions Wallasey Pool and Poulton; *Flo. Liv.* regards the species as too frequent for detailed localities. The shooting-ground, Leasowe, abundant; Hilbre Islands, &c.; *Webb. Wallasey*; Parkgate, Hilbre Island, &c. Triangular waste corner of lane at Bleaky Brow near Bromborough Station. In the stone slope of the "Cheese Stage," Chester.
5. The railway ground at Saltney, just within the county.

Var. β. debilis, Syme (= *S. debilis*, Jord.).

4. Rocky bank of the lane between Bromborough and Patrick Wood; *Brown*, *sp.*

For the *S. maritima* of Wood, *Flo.* see under *S. ciliata*.

***S. apetala*, Linn.**

Blunt-sepalled Pearlwort.

The edges of paths, particularly along the base of walls, also on walls and rock-cuttings, dry banks, hard dry wastes, garden walks, &c.
A. Spring to Autumn. Native. Distribution thin, but probably general.

1. Marple; *S. Gibson in Phyt.* i. (1842), p. 178. Northenden; *Hunt*, *sp.* Bottom of the second length of stone wall between Dan Bank Toll-gate and Rose Hill Station; Walls out of Pott Shrigley towards Bollington; *Webb*, *sp.* Wall bases between Bramhall and Mile End (250 feet). [Roadside, Romiley; (*Whitehead*), *R. C. Rep.* 1881-82.]
2. Rose Hill, Bowdon; Bowdon Vale; Sandy Lane, Bowdon; *Hunt*, *sp.* Garden walks in front of Tabley House; The brickwork at Tabley boathouse; and road at the White Lodge.
3. On some rocks edging a lane just under Peckforton Hill to the west; Walls in Ince village; Budworth Common; Dunham-on-the-Hill Station; Railway bridge east of Crabtree Green; Delamere to Hatchmere road.
4. Common; *Dick. Flo.* and *Flo. Liv.* (not recorded in *Hall, Flo.*). May fairly be called "frequent" in Wirral, *e.g.* by roadsides, under the coping of Birkenhead Park; On rock cuttings about West Kirby; On walls, most of the old villages, say Caldy, Heswell, Willaston, &c.; *Webb*. Rocks under Wallasey Church; On waste ground at Hooton Station; About Parkgate, &c.; Little Mollington; Bromborough Station.
5. By the side of the road to "Barnhill" out of the main road between Broxton Hotel and the entrance gates to Bolesworth Castle; *Webb*. Edges of side-walks in Curzon Park, Chester; Chester walls; Tattenhall Station; Christleton. [Roadside at Kidnal; *A. H. Wolley Dod.*]

***S. ciliata*, Fries.**

Acute-sepalled Pearlwort.

On banks and by path-sides in coarse sandy soil, also on walls and gravel walks. *A.* Spring and Summer?. Native. Distributive data imperfect.

2. Tabley front garden with *S. apetala*. Bowdon Churchyard walls. ("*S. maritima*. Upon Bowdon Churchyard wall, and in a field above Bowdon Moss; these habitats are interesting from their inland situation;" *Wood, Flo.* In his article on the genus *Sagina* in *Phyt.* i. (April 1842), p. 177-179, Mr. S. Gibson mentions having received specimens of the Bowdon church plant (from Dr. Wood), and he places it to his variety *lævis* of *S. apetala*. This variety Mr. Babington subsequently states, "on the authority of authentic specimens," belongs to *S. ciliata* (*Bot. Gaz.*

vol. i. p. 176). I understand that it is not now to be found in the station named, and there are no specimens in *Hunt Hb.*)

3. South-west slope of Helsby Hill; The roadside a short distance from Flaxmere towards Norley Church; Budworth Common; Banks in Beeston Castle enclosure.
4. In the interstices of a stone-built roadside bank between Neston and Little Neston; Also on the walls of the farm at Puddington; *Webb and J. L. W.* Hilbre Island, 1866. By the pathway over Caldý Hill from Caldý village; Also on the hill-slope above a small quarry close to the main road between West Kirby and Caldý; Wall in Heswell village; Hedge-cop of the first field north of Parkgate; On Barton rocks, sparingly; *Webb*. Not recorded in the three Floras; first appears in *App. Flo. Liv.*, where my Hilbre station is specified, together with the two first of the following.
5. Side of the road at the bend between the turn to Bradley and Bradley Bridge, a mile S.E. of Malpas; Wall in Barton village a mile and a half west of Broxton Station; *Webb, sps.*

S. procumbens, Linn.

Procumbent Pearlwort.

Grows nearly anywhere: the edges of paths, on gravel-walks and flower-beds, at the foot of walls, on walls, on rocks, in pastures, in woods, in cornfields, damp or dry wastes, &c. *P.* Spring to Autumn. Native. Generally distributed. Ascends to 1750 feet at "Cat and Fiddle." Personal records in 1, 2, 3, 4, 5, 6, 7; second-hand records in 1, 2, 3, 4, 5, 6, 7.

Perhaps the most varied plant in its stations of our Flora.

S. subulata, Wimm.

Awl-leaved Pearlwort.

On the short-turfed parts of hilly sandy heaths. *P.* Summer. Native. In three inland (Forest) stations, and in four Wirral ones. Shore and mid-plain. Ascends to 500 feet, Oakmere.

3. Delamere Forest; (*G. E. Smith*), *Hb. Brit. Mus.* (No date mentioned; probably 1846.) On the heath near to the fish-pond, Oakmere, 1870; *Britten*. The edge of the road between Little Budworth and Budworth Commons.
4. Heswell Hills; (*Brent*), *Dick. Flo.* Bebbington; (*Shillito*), *Supp. Dick. Flo.* (Amplified to Lower Bebbington in a sandy lane on the road to Parkgate in *Flo. Liv.*) On Frankby Heath; (*Webb and Fisher*), *Proc. Liv. L. and P. Soc.* xv. p. 9. Hills at Thurstaston, abundant; (*Miss Grundy*), *Flo. Liv.*

S. nodosa, Meyer.

Knotty Pearlwort.

In damp depressions among the coast sandhills, and inland about the shores of meres, as also in wet sandy places in the high moorlands. *P.* Summer and Autumn. Native. Curiously local inland, but frequent on the coast. Ascends to 1700 feet at "Cat and Fiddle."

1. Damp places by the side of the road between the Derbyshire boundary and the "Cat and Fiddle;" *Webb*.

2. The common Moor by Knutsford; *Old Herbal*. Baguley Moor; Hale Moss; *Wood, Flo.* Borders of Rostherne Mere; *Ib. and Hunt, sp.* Sparingly on the S.E. margin of Pickmere Mere. [Turf at edge of masonry of canal, Wilderspool; (*F. A. Lees*), *R. C. Rep.* 1881-82.]

4. I can confirm *Flo. Liv.* in terming the plant "frequent on the coast," having personally met with it abundantly in depressions of the sandhills at New Brighton, Wallasey, Leasowe, Hoylake; Also below and above Parkgate, and to be found on Burton Rocks. [Near Bidston; *A. H. Wolley Dod.*]

[5. By the railway, near Bradley; *A. H. Wolley Dod.*]

I was surprised not to find this on the borders of some of the meres.

SPERGULA, Linn.

S. arvensis, Linn.

Corn Spurry.

Amongst corn and other crops, and on light soil or peat soil wastes, field-edges, roadside wastes, and rubbish heaps. *A.* Summer and Autumn. Native. Generally distributed. Ascends to 900 feet above Hollingsworth. Personal records in 1, 2, 3, 4, 6, 7; second-hand records in 1, 2, 3, 4, 5, 6, 7.

SPERGULARIA, Pers.

S. rubra, Fenzl.

Inland Sandwort.

Chiefly on our sandstone heathlands in places where the surface is broken, as byroads, path-sides, quarry edges, &c., and in other sandy and gravelly situations. *A.* or *B.* Summer and Autumn. Native. Not common, but distributed evenly throughout. Ascends to 900 feet at Staleybridge. Personal records in 1, 2, 3, 4, 5, 7; second-hand records in 1, 2, 3, 4, [5], 6.

S. neglecta, Syme.

Neglected Sandwort.

On muddy marsh ground, wastes, and rubbish heaps near the coast; also here and there inland by canals and roads, &c., particularly in the salt district. *A.* or *B.* Summer and Autumn. Native. Generally diffused coastwards, rare and ballast-brought inland.

2. Timperley, September 1861; Wet places amongst cinders, Broadheath, 1862; Canal-side between Broadheath and Timperley, September 1863; *Hunt, sps.* (all labelled *L. salinum*). Old Marston, near Northwich, 1874; *Fraser, sp.* In crevices of the stonework around the reservoirs at Northwich Saltworks; *Holland in Phyt.* iii. (1850), p. 863 as (*S. marina*). Associated with *Sclerochloa distans*, Bab., in great plenty in the old-fashioned pavement roads of Tabley Park: for fuller details see *J. of B.* viii. p. 252; Norton Marsh; Richmond Marsh.
3. About the saltworks, Winsford; (*Anon.*), *Phyt.* iii. N.S. p. 244. On Frodsham Score, common; Lordship Lane, Frodsham Marsh.
4. Muddy places on the sea-coast, frequent; *Flo. Liv.*, and my personal observation of the Wirral coast enables me also

to record this as a common coast plant, e.g. about Parkgate and on Bidston Marsh by Wallasey Pool. The two earlier Liverpool Floras include under the species-name "*marina*" all that is not "*rubra*."

5. On dredged-mud mounds by the canal-side east of Mollington Station, here also associated with *Scl. distans*: just within this Hundred; *Webb and J. L. W.* Dee Cop, Chester.

My Tabley specimens, I believe, agree with Mr. Hunt's Timperley plant, which has been passed as *Lepigonum salinum* by Mr. A. G. More, and the Winsford plant to that gentleman "seemed to be the same" (*Phyt.* v. N.S. p. 81). In Wirral and along the Mersey shore my records are for the aggregate species (i.e. inclusive of the vars. *genuina*, *salina*, and *media* of Syme), as I find that I cannot yet distinguish with confidence the varieties. Unfortunately, too, on this point no help is obtainable from *Flo. Liv.*

***S. marginata*, Syme.**

Sea-marsh Sandwort.

On muddy marsh-lands by the coast, and amongst the shingle of low flat tidal beaches. *B.* or *P.* Summer and Autumn. Native. Thinly dotted round the three coasts. Shore.

3. The shore below Ince Hall.
4. In marshy places at intervals from about half-a-mile south of Parkgate to the Denna Colliery; In plenty a short mile farther up among the shingle below Denhall House; Also in marshy ground N. and S. of Burton Point; *Webb and J. L. W.* Wallasey Pool; *S. Gibson in Phyt.* i. (1842), p. 218. (There called *S. media*: the description shows that the plant spoken of belongs here, and *S. media*, *Linn. Sp. Pl.* is a correct synonym. Separated in *Flo. Liv.* and doubtfully designated "frequent:" no stations are specified.) On the narrow shore-marsh under the river-bank between Eastham and Bromborough Pool; *Webb and Brown.* Banks of Bromborough Pool, and in marshy ground between Eastham Ferry and Ellesmere Port; (*Webb and Brown*), *Sec. App. Flo. Liv.*
5. The Dee bank near Saltney, sparingly; *Baillie.*

***S. rupestris*, Lebel.**

Sea-rock Sandwort.

On soft sandstone rock and rocky banks on the sea-coast. *P.* Summer and Autumn. Native. Confined to one Dee coast station. Shore.

4. On the rocks and banks of Hilbre Islands, abundant; (*Webb*), *L. N. J.* (1866), p. 14, and *Flo. Liv.*, the former record being the first for Mersey Province. I have gathered it personally at the S.E. extremity of the Greater Hilbre Island.

ILLECEBRACEÆ.

SCLERANTHUS, Linn.

S. annuus, Linn.

Common Knawel.

In light sandy cultivated ground and by lane-sides and on wastes, particularly where the sandy soil is loose and drifting. *A.* Summer. Native. Thin but uninterrupted distribution; perhaps absent from the higher levels. Personal records in 2, 3, 7; second-hand records in 2, 4, 6.

(*S. perennis*, Linn., is recorded in *N. B. G.* from Beeston; the specimens of *S. annuus* preserved are the nearest approach I could obtain.)

PORTULACEÆ.

MONTIA, Linn.

M. fontana, Linn.

Water-Blinks.

In shallow ditches and a variety of moist or watery places, chiefly on a heathy, peaty, or sandy soil; ascending to the stream-heads and runnels in the high moorlands. *A.* or *B.* Spring to Autumn. Native. Generally distributed. Ascends to 1500 feet at Goyts Clough. Personal records in 1, 2, 4, 7; second-hand records in 1, 2, 4, 6.

CLAYTONIA, Linn.

C. perfoliata, Don.

Perfoliate Claytonia.

A plant of Western North America; *Syme, E. B.* *A.* Early Summer. Casual.

2. Cornfields, Brooklands, near Sale, 1864; (*Sidebotham, sp.*), *Hunt, Hb.* Mentioned also as "a waif" found near Bowdon (*Mr. Du Parquet*) by *Bickham in Proc. Manch. L. and P. Soc.* viii. p. 170.

ELATINACEÆ.

ELATINE, Linn.

E. hexandra, DC.

Hexandrous Waterwort.

Subaqueous on mud in shallow meres. *A.* July, August. Native. In one Buckton station. North Plain.

2. On the borders of Mere Mere; *Wood, Flo.* This is the first definite printed record I find. That the station was known to James Crowther previous to 1833 we learn from the Memoir attached to Buxton's "Guide," p. ix.

The plant is easily found when the water is low. It is most abundant in the northern corner of the mere, where it is wooded all round at its point nearest Rostherne. It grows on alluvial mud mixed with white sand in company with *Limosella* and *Poly-*

gonum minus (also its comrades at Cut Mill Pond, Surrey), and extends a considerable distance into the mere, as I ascertained in the exceptionally dry summer of 1868.

HYPERICACEÆ.

HYPERICUM, Linn.

H. Androsæmum, Linn.*Tutsan St. John's-wort.*

In open woods and plantations and on bush-grown banks and wastes. *Sh.* Summer. Native. Rare and locally distributed.

1. Near Macclesfield; *Old Herbal*. In a wood near Broken Brow (Stockport); (*Bradbury*), *B. G.* Woods near Scout Mill, between Staleybridge and Mossley; (*Holme*), *B. G.* and *Buxt. G.* Near Styall; *Buxt. G.* Bredbury Wood; *Gr. Flo.* In Hollins Clough, near Mossley; *Walker, sp.* The grassy lane from the Woodley road at Pole Bank up Wer-neth Low.
2. Woods near Rock Savage; (*Okell*), *Lys. M. Brit.* p. 415.
4. Sparingly between Seacombe and Bidston; (*Watson*), *N. B. G.* The old Bidston road two miles from Woodside; Also near Cloughton Hall; *Hall, Flo.* Between Sir Thomas Stanley's (Hooton) and Eastham, a little above the river; (*H. Shepherd*), *Ib.* Plentiful in a plantation at Upton; Near Brom-borough Pool, rare; (*Skellon*), *Dick. Flo.* Upon a bank of Bromborough Pool, just beyond Patrick Wood, towards Bromborough Wood; (*Fisher*), *Flo. Liv.* I have never met with this in Wirral: the Seacombe and Woodside stations must have been destroyed long since: if it grows at Upton, it is in some private plantation or garden shrubbery, and the place indicated by Mr. Fisher is now enclosed; *Webb*.
6. A specimen sent me by Miss Tollemache gathered near Dor-fold, Nantwich.
7. Near Middlewich; *Old Herbal*.

H. elatum, Ait.*Tall St. John's-wort.*

Station as below. Not native. A shrubby plant. *Sh.* Summer.

6. Near to College Fields Farm, S.E. of Audlem, under a wall by the side of a footpath that passes through the farm-yard: I picked it as *H. Androsæmum*, feeling annoyed that I should have to record that species from such a suspicious station: quite probable that some of our "doubtful" records for the latter belong here, and the plant, I find, is not uncommon in old-fashioned gardens; *Webb, sp.*

[H. calycinum, Linn.]

A sub-shrub. Summer. Not native.

5. Naturalised in Upper Wood, Edge, originally planted; *A. H. Wolley Dod.*]

H. perforatum, Linn.

Common St. John's-wort.

In thickets, on bushy banks, and about rough field-edges, also on hedge-cops, sandstone rock-cuttings, and in poor sandy pastures. *P.* Late Summer. Native. Generally distributed. Ascends to 300 feet in 3. Personal records in 1, 2, 3, 4, 5, 6, 7; second-hand records in 1, 2, 4, 5, 6, 7.

The variety *β. angustifolium*, Syme, is of frequent occurrence.

H. dubium, Leers.

Imperforate St. John's-wort.

On the bushy banks of ditches and streams, and on sheltered and rather damp roadside wastes. *P.* Late Summer. Native. Thin but probably uninterrupted distribution.

2. Rostherne road, about thirty yards after the toll-bar from Bowdon; *Hunt, sp.* In four or five places, rather uncertain, about Tabley, in Ride Wood, &c.; but plants in flower most years by the brookside just under White House Farm.
4. Near Hoylake; (*J. Shepherd, Hb.*), *Hall, Flo.* Near High Tranmere; (*Marrat*), *Supp. Dick. Flo.* About eighty yards down the lane from the new West Kirby schools towards Newton Heath with *H. perforatum*; Near Mollington Station on road to Great Mollington, sparingly; Under a field-hedge close to the boundary-line below Little Soughall; *Webb.* Near Moston (see *App. Flo. Liv.*), near a wood by the canal: two plants seen in 1867, and it was to re-find it that I took Mr. Webb to the spot again in 1873, when we hit upon *Alisma natans*.
5. Among bushes on the left bank of the Dee in the S.E. portion of Eaton Hall grounds, in great quantity; Also in the adjoining wood; By the roadside opposite to the first cottage in the lane from near Egg Bridge to Brown Heath (a mile due N. of Waverton Station); *Webb.* [Below Overton Scar; Above Oldcastle Mill; *A. H. Wolley Dod*].
6. By the roadside just about two miles from Nantwich on the Middlewich road, sparingly; *Lewis.* Gutter close to the bridge that crosses the stream in the field behind the Hough Mill, Wybunbury; Also ditch bordering the west side of the plantation that now occupies the site of Wybunbury Mere; *Webb, sp.*
7. In the hedge by the footpath between Lower Peover Church and Lower Peover Mill; In several places by the brook in this district, and also on its other side in (2); Rather plentiful ascending Congleton Edge, about two and a half miles S.E. of the town on the county borders.

Var. β. maculatum, Bab.

1. The top of a roadside recess between Handforth and Wimslow; The supporting wall of the high bank, the second hill between Wimslow and Styal.

3. Roadside between Peckforton and Spurstow; By Ridley Hall Farm, S. of Spurstow.
4. Footpath-side between King's Wood Lane and Great Mollington.
5. Dee bank, Meadow Plantation, Eaton Hall grounds; Field-edge of Gamon's Rough, Chester; Lane between Vicar's Cross and Littleton.

H. tetrapterum, Fries.*Square-stalked St. John's-wort.*

Amongst the coarse herbage of ditches, pond borders, the mosses, and other marshy and boggy places. *P.* Late Summer. Native. Generally distributed. Personal records in 1, 2, 3, 4, 5, 6, 7; second-hand records in 1, 2, 4, 5, 6, 7.

H. humifusum, Linn.*Trailing St. John's-wort.*

In bareish places on heaths, roadside banks, poor pastures, &c., chiefly where the soil is gravelly or of a firm sandy character. *P.* Late Summer. Native. Generally distributed. Ascends to 1750 feet at "Cat and Fiddle." Personal records in 1, 2, 3, 4, 7; second-hand records in 1, 2, 3, 4, 5, 6, 7.

H. pulchrum, Linn.*Slender St. John's-wort.*

On heaths and rough, heathery wastes—often about the edges of the gorse clumps; also on dry, sunny bush-covered banks and hedge-cops: a most ungregarious plant. *P.* Summer. Native. Rather thin but uninterrupted distribution. Personal records in 1, 2, 7; second-hand records in 1, 2, 4, 5, 6, 7.

H. hirsutum, Linn.*Hairy St. John's-wort.*

On rough overgrown roadside wastes. *P.* Summer. Native. Confined to a few Broxton stations. South Plain.

2. In a thicket at Aston; (*J. Harrison*), *Supp. Dick. Flo.* (*Note.*—Aston lies on the right bank of the Weaver due east of Frodsham. This vague station has not been confirmed, and I find that Dr. Dickinson questioned the genuineness of a good many of John Harrison's records. He must not be confounded with Mr. William Harrison, one of Dr. D.'s best contributors. *Flo. Liv.* repeats the record without expressing doubt, or rather states belief in it.)
5. In small quantity on the left-hand roadside waste by the ditch, say, 200 yards before coming to the Pulford (now disused) Station from the village, 1873; *Newbould and Webb, sp.* Amongst rough vegetation by the roadside fifty yards west of Stretton Mill, near Carden; and in fair quantity, and extending to the turn to Barton; *Webb, sp.* The roadside plantation a quarter to half-a-mile north of Aldford, plentiful; The road north from Tattenhall about two-thirds of a mile, and by the brook in fields N.W. of Tattenhall; Left bank of Dee about half-a-mile above Iron Bridge; Right bank of Dee opposite Heron Bridge; Bushy places, Eaton Hall grounds, near Chester entrance. [Lower Wych; *A. H. Wolley Dod.*]

H. elodes, Linn.*Bog St. John's-wort.*

On heaths and moss-lands, in shallow trenches and splashes, and by the swampy sides of larger pieces of water. *P.* Summer and Autumn. Native. Dotted locally throughout. Ascends to 350 feet at Eaton Moss.

1. Pit-sides on Lindow Common, plentiful; Eaton Moss, near Macclesfield; *Buxt. G.* (Eaton Moss is nearer Congleton by five or six miles.)
 2. Knutsford Heath; *Old Herbal.* By one of four or five small pits which lie together in a grass-margined lane leading from Black Hill Farm, Knutsford, to Bexton Hall, near Toft.
 3. Plentiful in swamps near the Fishpool, Oakmere, Delamere Forest, *Holland*; also *Bickham* and *Melvill*. Achmere; (*Robinson, sp.*), *Hunt, Hb.* Flaxmere; N.W. Hatchmere.
 4. Side of a large pit at the south-west corner of Oxtan Heath, July 1858; (*Price* vide *Webb*), *Proc. Liv. L. and P. Soc.* xv. p. 10. And in a neighbouring ditch on west edge of the Heath; (*Webb*), *Flo. Liv.* Pit near Raby Mere, abundant; (*Miss Grundy*), *L. N. J.* p. 190. I could not see a trace of the plant at Oxtan Heath, the only station I am personally acquainted with in Wirral, 1873; *Webb, MSS.*
 6. Blackwater Moss, near Audlem; Margin of the lake in the field behind Hatherton Lodge, and by side of pond on opposite side of the road: soil ericetal; *Webb.*
 7. Brookhouse Moss, near Macclesfield; *Gr. Flo.* (Full ten miles from Macclesfield: under three miles from Congleton.) Rudheath; *Old Herbal.* Copiously by the margin of the large pit at Lower Peover Heath; In two places by pits on the edge of Rudheath, near the "Three Greyhounds."
- ("Inter Rudheath et Lower Peover in loco ubi aquæ stagnant, et in (2) ericeto Knutsfordiensi juxta lacum Cookstool-pit dictum sæd rarius;" *Old Herbal.* These are exactly two of my own records, viz., at Black Hill and Rudheath. I had noted the plant before I was aware of this prior discovery.)

MALVACEÆ.

MALVA, Linn.**M. moschata, Linn.***Musk Mallow.*

On exposed sunny hedge-banks, railway embankments, &c. *P.* Summer and Autumn. Native. Dotted locally throughout. No hill record.

1. Railway banks between Cheadle and Wimslow; *Buxt. G.* Near Otterspool Bridge; *Chapple.*
2. Frequent about Rostherne; *Wood in Phyt.* i. p. 281. On the steep bank near the bottom of Cotterill Wood; *Buxt. G.* ed. ii., and *Hunt, sp.* Meadow at Bowdon; *Hunt, sp.* Ashton-upon-Mersey; *Gr. Flo.* Banks of the Warrington and Chester railway; *Warr. List.* Between the canal and

the tunnel, both sides of Halton Station. Noticed several times near Tabley; A permanent station just between the words "Ride Wood" and "Sudlow Wash" (at Tabley) on the Ord. Map.

3. Woodhouse, near Frodsham, rare, 1865; (*Robinson*), *Flo. Liv.* Tarporley Churchyard; Beeston Gate; Near Ridley Hall Farm, S. of Spurstow.
4. Woodside in 1836; *Hall, Flo.* Abundant in a pasture-field at Little Sutton; *Ib.* Raby; (*Collingwood*), *Proc. Liv. L. and P. Soc.* xv. p. 14. I saw it sparingly in 1873 on the lane hedge-bank between Raby Mill and Poolton Hall; *Webb.* Between Hooton and Eastham; (*Marrat and Fisher*), *Flo. Liv.*
5. On the Chester and Crewe Railway bank at Broughton (Chester); *Brown.* Roadside hedge-bank between the turn to Bradley and Bradley Bridge, a mile S.E. of Malpas; *Webb.* Lane south from Broughton. [Pretty common about Malpas; *A. H. Wolley Dod.*]
6. Near the corner of the first road to the right from the main road E. of Basford Station; One place in the lane between Buerton Mill and the corner marked in Ord. Map "Buerton Moss;" Sloping bank of the Ellesmere and Chester Canal, facing the road a quarter-mile south of the bridge that crosses over the Whitchurch and Tarporley turnpike road: in large quantity; *Webb.* Between Wrenbury village and the canal; *Id.* Near Combermere.
7. Hedge-banks near Congleton; *Watson, MS. notes.* Permanent about Lower Peover Churchyard.

***M. sylvestris*, Linn.**

Common Mallow.

On waste ground, and by roadsides and about field borders, most noticeable near villages. *P.* Summer and Autumn. Native. General coastwards and in South Plain. Rare and local in North and Mid-Plain. Personal records in 1, 2, 4, 7; second-hand records in 1, 2, 3, 4, 5, 6.

1. About Norten; *Wood, Flo.* (Not confirmed by the later Floras.) The farmyard at Woodford New Hall; The edge of a neglected garden at Hazel Grove, between the Station and the high-road; By the bridge over the Macclesfield Canal, near North Rode Station; *Webb.* Wimslow Churchyard; Noted near Disley.
2. Near Hollins Ferry (*J. Martin*), perhaps on the Lancashire side; *Buxt. G.* Hedge-banks and fields below Bowdon Church; *Ib.* Ashton-upon-Mersey; *Gr. Flo.* Aston; *Warr. List.* Near Mobberley; *Hunt, sp.* Only twice seen in the neighbourhood of Tabley: Once near farm buildings at Marston Hall; Again in a similar position at Ullard Hall, Toft. It may seem rather absurd to say so, but I suspect it to have been a casual in both cases.
3. About Ince, Elton Green, and Elton; *Brown.* Tarvin; Quarry, &c. Dunham-on-the-Hill; Little Budworth; Bunbury Churchyard; Peckforton.

4. "Common" and without stations in the three Liverpool Floras; a correct estimate for Wirral, having seen it myself with no indication of scarcity at Parkgate, Hoylake, Bromborough Pool, &c.; Noted also at Moston Bridge on the extreme boundary of this Hundred to the south; The Cop, Chester; Raby watermill.
5. Between Tattenhall Station and village; *Lewis*. The outskirts of Malpas; In the village of Barton; By the farmhouse and cottages at Chowley, near Aldersey; *Webb*. Boughton; Christleton; Calverley Hall; Aldford; The Greaves, Tattenhall; Newton; Outskirts of Chester; Plemstall.
6. Hedge-bank at Ravensmoor; Roadside between Wrenbury and Marbury; *Brown*. Common about Audlem; About Wrenbury village; In Marbury Churchyard; *Webb*.
7. A single plant in Lower Peover Churchyard, 1864.

M. rotundifolia*, Linn.Dwarf Mallow.*

On dry sandy or sandstone roadside wastes and hedge-banks, generally near to villages and farmsteads. *P.* Summer and Autumn. Native or colonist? Thin but uninterrupted distribution.

2. At Bowdon and Altrincham; *Wood, Flo.* Lane below the old church at Bowdon; *Hunt, sp.* Lane-side on the steepest part of Tabley Hill; Roadside at Marston, and three or four other places in the neighbourhood, but always near cottages.
3. Horsley Bank cottages, Beeston; Bridge Trafford, E.; Near Beeston Castle Station; Little Budworth; Bunbury, W.
4. The roadside a little east of Burton is the farthest south locality I have note of: common in sandy ground in the west and north near the coast: I do not precisely remember it on the east side; *Webb*. Frequent in Cheshire (*i.e.* Wirral) and no stations given; *Flo. Liv.*; and I have observed it with no sign of scarcity about Wallasey, Hoylake, and North Parkgate.
5. Between Tattenhall Station and village; *Lewis*. Carden Green; In the village of Barton; By the cottages at Chowley, near Aldersey; *Webb*. Aldford, near the school; Saughton; Christleton. [Near Tilston, rare; *A. H. Wolley Dod.*]
6. About Wrenbury, abundant; *Brown*. One plant near Wilston Heath (Nantwich); *Lewis*. Common about Audlem; In and around Wrenbury village; *Webb*.
7. Roadsides by Congleton, but scarce?; *Watson, MS. Notes*.

***M. borealis*, Wallmann.**

A casual.

"Common in Scandinavia and North Germany;" *Syme, E. B.*

1. In a quarry full of rubbish heaps between Staleybridge and Mottram, 1874, with *Enarthrocarpus*, &c.; *Baker*. [Amongst cornmill refuse, near Staleybridge, Cheshire; (*Whitehead*), *R. C. Rep.* 1877.]

TILIACEÆ.

TILIA, *Linn.***T. grandifolia**, *Ehrh.**Broad-leaved Lime.*

Woods, parks, hedges. *T.* Summer. Probably always planted, but less obviously so than the next. Records not taken.

The tree is probably not common, but specimens for reference may be found in Tabley Park, half-way between the House and the Red Lodge on the Park roadside. Mr. Grindon records examples from near Ashton-upon-Mersey Church. Mr. Hunt gathered examples near Sale which I have seen. All three stations are in Hundred 2.

T. intermedia, *DC.**Common Lime.*

Woods and hedges. *T.* Summer. Always planted. Records not taken. Widely cultivated.

T. parvifolia, *Ehrh.**British Lime.*

Woods and hedgerows. *T.* Summer. Alien with us and always planted. Rare? Data of distribution imperfect.

2. Tabley woods; *Holland in Phyt.* iii. (1850), p. 863. The tree stands, or used to stand, on one side of the gate which leaves the high-road for the White Lodge, Tabley Park. There are others in the avenue leading from the same road half-a-mile nearer Manchester up to Tabley Old Hall. The one-sided appearance of the fruit was quite obvious. I give particulars of this station, as the tree, though planted, is rare.

Cheshire is referred to in the following extract:—"Tilia. . . I do not believe that any species of this genus is wild in this part of the island, however it be in other parts;" *Waring in Phil. Trans.* lxi. (1771), p. 381.

LINACEÆ.

RADIOLA, *Gmel.***R. millegrana**, *Sm.**Thyme-leaved Flax-seed.*

In bare depressions, ruts, or sod-holes on heaths, where water has lodged in winter and the soil remains hardened and damp, and on moist ericeto-glacial hedge-cops and wastes. *A.* Late Summer and Autumn. Native. Dotted thinly throughout.

1. On Lindow Common, plentiful; *Buxt. G.* Red Lion Common, near Lower Withington, S. of Chelford Station, at its north end.
2. Shaw Heath and Knutsford; *Old Herbal.* Bowdon Moss; Baguley Moor (not confirmed by later Floras or *Hunt, Hb.*). On a piece of waste ground the remains of Sale Moor; *Buxt. G.* On Knutsford Racecourse, sparingly, near the end of Tabley Lane.
3. North end of Hatchmere.
4. Of frequent occurrence on damp heathy ground in the neighbourhood of Bidston; Oxton; Cloughton; Heswell (all

in *Hall, Flo.*). West Kirby; (*Dick, Flo.*). We are short of localities for the southern portion of Wirral; *Flo. Liv.* On the east side of Thurston Hill with *Centunculus* (*q.v.*); In the field-lane parallel with the railway on the north side, half-a-mile or so east of Neston Station: I do not know a locality more south in Wirral; *Webb.* Heswell Hills, plentiful.

5. [Edge Green; *A. H. Wolley Dod.*]

6. The S.W. portion of Hankelow Green with *Peplis*; *Webb. sp.*

7. Rudheath; *Old Herbal.* Peover Heath, plentiful near the cottage; Rudheath, by the roadside, just through a gate, about a half-mile E. of the "Three Greyhounds."

("Super Rudheath, Shaw-heath, et Knutsford juxta lacum Cookstool-pit dictum copiosè inveni;" *Old Herbal.*)

General enough if looked for in the right places, and once seen growing, the exact places for finding it are easily known, but difficult to put in words. Mr. Watson calls it "*ericetal*"; if I adopt his terms I should say *ericeto-glareal*.

LINUM, Linn.

L. catharticum, Linn.

Purging Flax.

In poor and dry (hilly) pastures, on railway embankments and slopes, and on grassy banks and wastes by roadsides, &c. *A.* Summer. Native. Generally distributed. Ascends to 1750 feet at the "Cat and Fiddle." Personal records in 1, 2, 4, 6, 7; second-hand records in 1, 2, 3, 4, 5, 6, 7.

L. angustifolium, Huds.

Narrow-leaved Flax.

On the banks and about the edges of dry-soil fields, and on neighbouring roadsides and wastes. *P.* or *A.* Summer. Native. In four or five Middle Wirral stations. Shore.

4. Near Tranmere; *Dick, Flo.* In cornfields near Barnston; (*Skellon*), *Dick, Flo.* In plenty in a field not far from Clatterbridge Toll-bar; (*Shillito*), *Flo. Liv.* Among shingle, on the shore between Heswell and Caldy, sparingly; (*Fisher and Webb*), *Ib.* Roadside about a mile from Brimstage towards Gayton; (*Brown*), *App. Flo. Liv.* Grassy inclined ground between the New Chester road and Bromborough Pool; (*W. Burton*), *Sec. App. Flo. Liv.* Barnston; *Siddall.* On the side of a steep sloping pasture-field by the footway from Gayton to Parkgate; the brow on which it occurs overlooks Leighton Hall. (*Hall, Flo.*, gives three stations near Birkenhead, in ground long since altered and now built over.)

L. unitatissimum, Linn.

Common Flax.

Rubbish heaps, roadsides, wastes, and field-edges. *A.* Summer and Autumn.

An uncertain casual, originating much as the Canary-grass, from accidentally dropped seeds; never permanent. I am tempted to give, *exempli gratiâ*, one station, viz.—"Rubbish heaps," Seaman's Moss Pits, 1872; *Hunt, sp.*—to show that the nativity of a plant from this well-known botanical station must not be accepted without question.

GERANIACEÆ.

GERANIUM, Linn.

G. sanguineum, Linn.*Blood Crane's-bill.*

In rough places on or bordering the sandhills, and on rocks, wastes, and clay banks on the coast. *P.* Summer and Autumn. Native. Confined almost to the Dee coast. Shore.

Var. β. prostratum, Syme.

4. Banks of the Dee near Parkgate; (*Okell*), *Lys. M. Brit.* Sandhills, New Brighton, near the Rock Fort; and on the Mersey banks southwards towards Seacombe; Also in a hedge behind the Half-way House, Egremont; *Hall, Flo.* Along the Parkgate shore; (*Miss E. Potts*), *ib.* Between Hoylake and West Kirby, and between Heswell and Thurston; (*Miss Grundy*), *Flo. Liv.* (The last-named station is corrected in *L. N. J.* p. 190 by Miss Grundy to ground behind the old limekiln, immediately below Caldy village, where, with the crimson-flowered plant, a pale pink or nearly white-flowered form grows, supposed to be the same as the Walney Island plant called *G. lancestriense*. From various sources I ascertain that *G. sanguineum* now exists only on the "Noses" at New Brighton, and there but in small quantity, on the east side of Wirral, so that practically our present stations are simply those of the Dee coast from a mile and a half (say near Gayton Cottage) north of Parkgate to Hoylake, with the intermission of two miles of coast south of Caldy.) Grows in great profusion on the sandhills where they begin to rise from the flat low coast about a mile and a half north of Parkgate, and continues growing among *Pteris*, &c., as far as abreast of Heswell; "The Scrub," north of Gayton Cottage.
5. A patch on the railway slope at Tattenhall Station.

G. phæum, Linn.*Dusky Crane's-bill.*

On garden rubbish heaps and neighbouring roadsides. *P.* Summer. A garden outcast.

2. Roadside between Bowdon and Rostherne (1857); Between Mere and Knutsford, and near Mobberley; *Gr. Flo.* Mentioned besides in *Holland*, p. 178, as growing in moist meadows near Ashley—a mistake, no doubt, for *G. pratense*.
4. In a hedge between Egremont and New Brighton, "an outcast from some garden;" *Hall, Flo.* "Has become naturalised from gardens in many localities near Liverpool;" *Dick. Flo.* Surely this is put too strongly. *Flo. Liv.* gives one recent Lancashire record.

E

G. pratense, Linn.*Meadow Crane's-bill.*

In meadows, moist rank pastures, and by stream-sides. *P.* Summer and Autumn. Native. Sparsely dotted over Bucklow and Macclesfield; few records beyond these limits. Chiefly north plain.

1. Meadows near Stockport; (*Holme*), *B. G.* Reddish Vale in great abundance; Fields near Cheadle, plentiful; *Bux.* *G.* Wimslow; *Gr. Flo.* Roadside at Chorley, Alderley; *Brown.*
2. About Bowdon; *Gr. Flo.* and *Hunt, sp.* About Statham, near Lymm; *Gr. Flo.* The skirts of Cotterill Wood; (*Rogers*). *Phyt. N.S.* vi. p. 249. Near the towing-path on the right bank of the Weaver, about a quarter-mile below Acton Bridge; Right bank of the Bollin, "down" from Castle Mill, Ashley; Between Halton Station and the tunnel.
3. The meadow above Bradford Mill-dam, a mile and a half N. of Over; *Phyt. N.S.* iii. p. 248. Bridge Trafford, E.: a clump by a cottage.
5. Damp meadow opposite Eccleston; "The Meadows," Chester.
7. About Middlewich and Byley; *Holland.* Near the River Dane, below Congleton; *Watson, MS. notes.*

G. pyrenaicum, Linn.*Mountain Crane's-bill.*

Wastes, banks, roadsides (with us not yet in meadows, as in Surrey, &c.). *P.* June, July, August. Casual. Rare.

2. Naturalised (?) on waste land near Runcorn; *J. F. Robinson, sp.* July 1873. I quote the exact terms of Mr. Robinson's ticket.
5. (Private road by Mr. Hignett's house from Bumper's Lane, Sealands, to the Dee Cop, abundant; (*Ed. Davies*), *App. Flo. Liv.* This station is given under C. for Cheshire, but it is just inside Flintshire.)

I give these records as the plant is probably now much in the same position in our province that *Erysimum cheiranthoides* was some fifteen years ago. Our local Floras of the future are sure to give hereafter ever-increasing numbers of records for it, as, once established, it spreads rapidly.

G. molle, Linn.*Soft-leaved Crane's-bill.*

By roadsides and in cultivated and waste ground; also in meadows and on the sandhills, &c. *A.* or *B.* Spring to Autumn. Native. Generally distributed. Personal records in 1, 2, 3, 4, 5, 7; second-hand records in 1, 2, 4, 5, 6, 7.

G. pusillum, Linn.*Small Crane's-bill.*

By roadsides and on hedge-banks and wastes on a light sandy soil. *A.* Summer. Native. Thinly and locally scattered (probably) throughout. Data imperfect.

2. "In fields about Chorlton and Ashton-upon-Mersey;" *Gr. Flo.* (These two towns occupy diverse sides of Mersey, some two and a half miles from each other, the latter in

Cheshire. I assume that some of the "fields" for *G. pusillum* are Cestrian. Buxton omits the species. There are no specimens from the district in *Hunt, Hb.*) Hedge-banks, Town Lane, Mobberley; *Holland.*

3. Sparingly on the hedge-bank in the lane striking from Watling Street, on the west side of Hartford Railway Station towards Whitegate; In one or two places between the main road and Vale Royal; *Brown, Fisher and Gibson, 1871*; Dunham-on-the-Hill, near the "Wheatsheaf;" Amongst sown grass in a large field S.E. of Delamere Station; Several places about Tiverton, between Beeston Castle Station and Tarporley road; Bunbury.
4. New Brighton, on a waste piece of ground; West Kirby; Caldy; (*Miss Grundy*), *Flo. Liv.* (Stated by a "correspondent" to have been seen at New Brighton in June 1858, in *Phyt. N.S.* ii. p. 647 and iii. p. 288. Sparingly on north side of a small green adjoining the road at Great Meols; (*Webb*), *Flo. Liv.* Rather plentifully in the lane eastwards from the Great Meols Green towards the *Rosa hibernica* station, with *G. molle*; *Webb.*
5. By the railway bridge west of Christleton and onwards by the roadside towards Chester.
6. By the roadside a quarter of a mile before reaching the village of Hankelow from Audlem; *Webb.*

G. rotundifolium, *Linn.* (*Round-leaved Crane's-bill*), was gathered, a single example, by the Flora Committee among the macadam of a new-made road at Cloughton, near Birkenhead; *Flo. Liv.*

G. dissectum*, *Linn.

Cut-leaved Crane's-bill.

In cultivated fields and on good soil wastes, also on banks and about roadsides. *A.* or *B.* Early Summer, Autumn. Native. Generally distributed. Ascends to 900 feet at Redmoor Lane, Newmills. Personal records in 1, 2, 3, 4, 7; second-hand records in 1, 2, 4, 5, 6.

G. columbinum*, *Linn.

Long-stalked Crane's-bill.

On banks and by roadsides on a light sandy soil. *A.* or *B.* Summer. Native. Very local in Bucklow, Eddisbury, and Wirral. No hill record.

2. By roadside between Altrincham and Bowdon; *Wood, Flo.* (No subsequent confirmation.) Hedge-bank on the canal-side, between Broadheath Bridge and Seaman's Moss Bridge; *Buxt. G.* and *Hunt, sps.*, 1859 and 1864. Near Rostherne, 1843; *Sidebotham, sp.* In a hedgerow between Daresbury and Stockton Heath; *Melvill.* Near Runcorn; (*Wood*), *Supp. Dick. Flo.* Hedge-bank on the road from Mobberley Station to the church; *Holland.*
3. Near Oakmere, 1872; *Bickham, sp.* and *Sidebotham*; Also by the roadside near the Abbey Arms, Delamere Forest; *Sidebotham.* In an old lane near the village of Thornton; (*Shillito*), *Flo. Liv.* Roadside bank three-quarters of a mile N. of Delamere Station.

4. In a lane leading to Heswell; (*Miss Potts*), *Hall, Flo.* Road-side near Bidston; (*W. Bean*), *Dick. Flo.* Near Queen's Ferry; (*Fisher*), *Proc. Liv. L. and P. Soc.* xv. p. 10. Exceedingly plentiful and fine about Four Lane Ends, Queen's Ferry road, near a new church, 1873; *Holland.* (*Note.*—These two records probably refer to one and the same station (and cover a space of thirteen years), which is almost certainly in Flintshire. Mr. Holland subsequently wrote to that effect.) We have a good deal of likely ground in Wirral, but I have not met with the plant; *Webb.*

G. lucidum, Linn.

Shining Crane's-bill.

On hedge-banks near gardens, from which it has been derived. *A.* or *B.* Spring to Autumn. Casual. Ballast-brought.

2. Bank by a garden beyond Ashley Mill, 1862; *Hunt, sp.* (I presume Mr. Hunt thought this to be an outcast or escape from the garden, as he introduced its mention on his ticket.) In several places about Bowdon, brought with garden rock-work; *Bickham* in *Proc. Manch. L. and P. Soc.* viii. p. 166. Higher Walton; *Warr. List.*

Is common on rock-work at Bowdon; indeed, in some instances is a troublesome weed, doubtless having been introduced with limestone from Derbyshire; *Bickham, MS.*, 1875.

G. Robertianum, Linn.

Herb-Robert Crane's-bill.

On shady hedge and ditch banks, and in woods, wooded cloughs, &c., also on old buildings, about quarries and other rough stony places, down to the shore shingle. *A.* or *B.* Spring to Autumn. Native. Generally distributed. Personal records in 1, 2, 3, 7; second-hand records in 1, 2, 3, 4, 5, 6, 7.

ERODIUM, L'Hérit.

E. cicutarium, L'Hérit.

Common Stork's-bill.

On and near the sandhills and on dry sandy banks, road-edges, and wastes inland. *A.* or *B.* Early Summer to Autumn. Native.

1. Seen as an evident casual by the roadside at Micklehurst; *Baker.*
2. On the hedge-banks in the lane below Bowdon Church; *Wood, Flo.* About Bowdon; *Buxt. G.* and *Hunt, sp.*, 1857-59. Once in a field between Red Lodge and Tabley Hill, a mere casual.
3. *Oakmere*; *Bickham.* Little Budworth; By bridge over the railway N.W. of Newchurch Common; Booth's smithy, south from Newchurch Common; Lane-sides, &c., Oulton Mill.
4. Stated to be "common" on the sandhills and "occasional" inland in *Flo. Liv.*, and no stations are specified in the three Floras. I have seen it at New Brighton, Wallasey,

- Leasowe, Hoylake, Parkgate, also in the extreme south in a lane near Backford; The Cop, Chester.
5. At Chester, by the river-side, very near the Water Tower; *Holland*. In patches on rocks in a lane-side just under the S.E. slope of Broxton Hill; Between Christleton and Boughton.
 6. Close to the corner marked Buerton Moss in Ord. Map (near Audlem); By the roadside between Yew Tree House and Foxes Bank, on the road from Hankelow to Doddington Park; *Webb*.
 7. Roadside between Sandbach Station and the town; *Holland*.

E. moschatum*, L'Hérit.Musky Stork's-bill.*Waste places and road-sides. *A.* Summer.

1. In two separate patches of arable land near Micklehurst; *Baker*. In the lane between Stockport and the New Bridge; (*Holme*), *B. G.*
4. Hedge-bank on the north side of Grange Hill near West Kirby, rare; (*Skellon*), *Dick. Flo.* and (*Shillito*), *Supp. Dick. Flo.* I do not think here now: I could never find it: plenty of cottages with old-fashioned gardens are near; *Webb*.
5. Near Chester; (*Dr. Wood*), *Supp. Dick. Flo.*

E. maritimum*, Sm.Seaside Stork's-bill.*Maritime sands, gravels, and rocks. *A.* or *B.* Spring to Autumn. Misrecorded?

4. Coast near Parkgate; (*Bradbury*), *B. G.*

Mr. F. P. Marrat has found this plant growing both at Parkgate and Neston, thus confirming the *B. G.* Dr. Wood finds it growing plentifully on the opposite side of the Dee at Flint and Rhyl; *Supp. Dick. Flo.*

The *Flo. Liv.* notes on this, that Mr. Marrat does not now (1868) recollect anything about these findings, therefore that *Flora* excludes *E. maritimum*, leaving it as a desideratum likely to occur.

On a note by Mr. Webb printed in *Topog. Bot.* p. 606, to the effect that he could not find any specimens of *E. maritimum* in the old Liverpool herbaria, and believed that states of *E. cicurarium* had been mistaken for it in the recent records, Mr. Watson remarks, "If wholly absent from the sandy coasts of Cheshire and Lancashire, the fact is certainly more remarkable than its presence would be. Recorded for the five maritime counties of North Wales, and again for both the Lake counties, why the void between these?"

Supposing the species still at Flint, some three miles only separate it from our shores. Still the fact of so many perfectly competent botanists having tramped these shores since the time of *B. G.* without noticing the plant militates rather strongly against its occurrence. On the question whether Mr. Marrat found it or not, of course I cannot presume. In the *Phyt. N.S.* ii. p. 647 an

anonymous visitor to New Brighton says, "About a mile from the Light-tower" (Leasowe) he "saw some plants of *Erodium* very like *E. maritimum*."

OXALIS, Linn.

O. Acetosella, Linn.

Wood Sorrel.

In woods, thickets, and other shady places where the soil is damp and deep mould. *P.* Spring, Summer. Native. Ascends to 1500 feet at Goyts Clough. Personal records in 1, 2, 3, 5, 7; second-hand records in 1, 2, 3, 4, 5, 6, 7.

O. corniculata, Linn.

Procumbent Sorrel.

A casual garden weed; is reported (2) between Jackson's Boat and Baguley (= on waste ground in Sale; *Buxt. G.*); (*Buxton*), Wood, Flo. In the garden, unsown, at Rose Hill, Northen; and in cultivated ground at Baguley; *Gr. Flo.* (7) "Last summer I observed *O. corniculata* growing as a weed in the rectory garden at Astbury. . . . I was rather surprised at this. . . . I could not learn whether it was of annual occurrence;" *E. S. Wilson*, May 13, 1846, in *Phyt.* ii. p. 551. (*Note*.—This record would appear to have been transferred to *O. stricta*, and with the occurrence of that species at Didsbury just over our boundary (whence there are specimens in *Hunt. Hb.*, gathered 1862), used as an argument in favour of it (*O. stricta*) as a British plant. Compare *Phyt.* iii. p. 70 and *Cyb. Brit.* iii. p. 403).

IMPATIENS, Linn.

I. Noli-me-tangere, Linn.

Yellow Balsam.

Moist woods and shady sides of streams. *A.* Summer and Autumn.

1. Near Lyme Hall; (*Holme*), *B. G.* In a dingle near Lyme Hall; *Buxt. G.* ed. ii. Woods a little above Lyme Hall, by the stream, plentiful; *Gr. Flo.* I was along both the streams that flow down to Lyme Hall—the one by the quarry into the Mill pool, the other that supplies the piece of water in front of the Hall. The latter is most likely for the *Impatiens*; part of it lies in a wood and part of it passes through a rough overgrown dingle in the garden grounds. By permission I went the full length, but saw nothing of the plant, and of course its origin was not far to seek even if I had met with it. I was too late in the year, I suppose. The banks of the mill-stream are planted with *Rhododendrons*, &c., for game cover; *Webb, MSS.* 1874.
4. Mount Wood, near Prenton; In a lane at Oxton; (*Price and Dr. Wright*), *Proc. Liv. L. and P. Soc.* xv. p. 10. (Clearly not native, if indeed some mistake has not arisen in confounding this species with *I. parviflora*, which has been communicated from the Oxton neighbourhood.)

See on the claims of this species to nativity, *Topog. Bot.* p. 607.

I have found it at Lower Peover in a place where it has maintained itself for a number of years, yet where its garden origin is obvious.

I. fulva, *Nutt.* *Orange Balsam* is reported in *Gr. Flo.* by Mr. J. Sidebotham from (1) "woods and rough places about Marple old Hall, abundant." Of course only a garden stray.

I. parviflora, DC.
Small-flowered Balsam.

Casual and accidental.

1. [Railway bank between Disley and Whaley Bridge; (*C. Bailey*), *E. C. Rep.* 1889.]
2. Road to the new church, Bowdon, July 1854; *Hunt, sp.* A note is added on the ticket by Mr. Hunt in 1857 saying that this station was near Bowdon Lodge (of Dunham Park), but that the road had since been widened and the plant destroyed.
4. Oxtan; (*Fisher*), *App. Flo. Liv.* Has existed there for some years and in fair quantity; *Brown.*

ILICACEÆ.
ILEX, Linn.
I. Aquifolium, Linn.
Common Holly.

In woods, thickets, and as single scattered bushes, from the moorlands to the plain. Common also in hedges, shrubberies, &c. *T. May, June.* Native. Ascends to 1000 feet in N.E. of county. Personal records in 1, 2, 7.

Wild, I believe, throughout Cheshire; certainly so in the hill district.

CELASTRACEÆ.
EUONYMUS, Linn.
E. europæus, Linn.
Common Spindle-tree.

In woods. *T.* Early Summer.

2. In Cotterill Wood; (*Bux. G.*), and other woods in the same neighbourhood; *Ib.* ed. ii. Cotterill Clough abundant formerly, many of the trees now cut down; *Gr. Flo.* and (*Bickham*), *sp.*, 1856, *Hunt, Hb.* Wood on river Bollin banks beyond Ashley, 1859 and 1860; *Hunt, sps.* Aston woods; (*Robinson*), *Flo. Liv.* (Requires confirmation.)

I have never seen this shrub in Cheshire, and the stations from which it is reported do not seem to me conclusive as to its nativity. Observe, it does not occur with us in hedges, only in plantations; like *Cornus*, plentiful in some Cheshire ornamental woods, which so seldom forms part of our hedgerows. In their native counties it is difficult to traverse a mile of hedgerow without finding the two.

RHAMNACEÆ.
RHAMNUS, Linn.
R. catharticus, Linn.
Common Buckthorn.

In hedges and copse borders. *Sh.* Early Summer.

3. Hedge at Five Crosses, near Frodsham; (*Robinson, sp.* May 1857), *Hunt, Hb.* The Kingsley and Newton stations in

Flo. Liv. on same authority may or may not be other ways of wording the above.

5. The skirts of a small wood a hundred yards past the first bridge in the lane from Golbourne Belleau to Rushall Hall (N.W. of Tattenhall); Upper hedge of the field immediately above Lea Hall Farm, near Aldford, with *Cornus*; *Webb, sp.* Several bushes in hedge just before reaching Barton from Farndon; *Brown.*

R. Frangula, Linn.

Alder Buckthorn.

In woods and copses near mosses, and on the mosses themselves, and in hedges and thickets on a light peaty soil. *Sh.* Early Summer. Native.

1. Millbrook Great Wood, near Staleybridge; *Baker.* Lindow Common in a woody belt on the west side, plentiful; On Glead Moss, near Lower Withington, south of Chelford Station.
2. Baguley Moor; *Wood, Flo.* Very plentiful at Rostherne Mere; *Buxt. G. and Hunt, sp.* 1857. About Mobberley; (*Holland*), *Phyt.* iii. p. 864. By the side of ponds below Bowdon old church; *Gr. Flo.* Plentiful on Pickmere Moss, near Tabley; A tree or two in a wood by the brook below Clay House Farm, Tabley; and in several other spots; Hatchmere, N.W. swamp.
6. Blackwater Moss, near Audlem; Wybunbury Moss; *Webb.*
7. On Brookhouse Moss, near Congleton.

SAPINDACEÆ.

ACER, Linn.

A. Pseudo-platanus, Linn.

Sycamore Maple.

Hedgerows, plantations, open woods, &c. *T.* Spring. Alien. Extensively planted. Records not taken.

Seedlings are very often found.

A. campestre, Linn.

Common Maple.

Hedges and thickets. *T.* Spring and early Summer.

1. Between Hyde and Hatherlow; *Buxt. G.* (rendered Werneth Low in *Gr. Flo.*). On the banks of the Goyt, below Strines; *Gr. Flo.* (Query: In Cheshire?; at any rate planted.)
2. Hedges, Dunham; *Hunt, sp.* Not indigenous: A bush or two in White House Farm lane, but even as a planted tree very rare: a nursery garden once occupied this ground.
3. Some plants in hedges near Winnington Hall, near Weaverham, not native; Near Oulton Mill.
4. The Flora records are not precise. I do not believe the tree is indigenous in Wirral. Mr. Webb says that he has seen

it but rarely (*e.g.* the plantation belt around three sides of the Sanderott, and adjoining field at Claughton village), and only when actually planted.

5. About Aldford; Opposite Heron Bridge above Chester; Ridge Lane, Rowton. [Between Malpas and Kidnal Hill, rare; *A. H. Wolley Dod.*]
6. Becomes a frequent hedgerow plant about Crewe; so that "58 Chester" might be inserted guardedly; (*Webb*), *Topog. Bot.* p. 606. In the south of this division increases in frequency, Marbury, Wrenbury, &c.; *Brown*. Audlem neighbourhood; *Webb*.
7. Abundant, and with quite its South England look, for nearly a mile between Higher Green and Byley Bridge, north of Middlewich. I consider it best to adopt Mr. Webb's term "guardedly" native here.

LEGUMINOSÆ.

ULEX, Linn.

U. europæus, Linn.

Common Furze.

Heaths, commons, rough banks, wastes and field edges, in plantations and the outskirts of woods, &c. *Sh.* Winter and Spring. Native. Personal records in 1, 2, 3, 4, 5, 6, 7; second-hand records in 1, 2, 3, 4, 5, 6, 7.

U. Gallii, Planchon.

Late-flowering Furze.

Heaths, moorlands, heathery lane-sides, banks, and wastes. *Sh.* Autumn. Native. Ascends to 1000 feet in north of county.

1. Lindow Common, abundant; On Alderley Edge; *Bux. G.* (The former station under *U. nanus*, *Forst.*; the latter as *var. β. major*, *Bab.* The *Hunt Hb.* contains specimens from Alderley, with a note that the plant there grows four or five feet high.) The common furze of the Staleybridge district; *Baker*. Frequent about Disley, *e.g.* Redmoor Lane; Also in Danes Moss near Macclesfield, sparingly; and at Bottom-of-the-Oven, near Forest Chapel, &c.; *Webb*. Woodhead reservoir.
2. Baguley Moor (as *U. nanus*); *Wood, Flo.* Knutsford Race-course, and many other places.
3. Delamere Forest, near Sandiway Head; Norley, 1½ mile S.E.
4. Lane between Hadden Hall and Ness; *Webb*. This is the *U. nanus* of *Hall, Flo.* and *Dick. Flo.*, and according to *Flo. Liv.* is more common on the Wirral Heaths (Bidston, Oxton, Heswell, &c.) than *U. europæus*. I have noted it near the docks, Birkenhead, and on Heswell Hills; Also at Raby watermill.
5. The road from Broxton Station to Carden; By the roadside between Barnhill Bank and Broxton Lodge; *Webb*. Tattenhall; Bickerton. [Bulkeley Hill; *A. H. Wolley Dod.*]
6. Wybunbury Bog; *Thompson*. Roadside near Pinsley Green;

Brown. Clannor Heath, near Wybunbury; Common about Audlem; *Webb.* Combermere.

7. The road under Cloud Plantation about two miles east of Buglawton; *Webb.* Lower Peover Heath; Rudheath; and many other spots.

This plant is distributed merely because there has been a good deal of confusion about it in past records.

U. eu-nanus, *Syme* (*U. nanus*, *Planchon*).

No satisfactory record.

Dr. Dickinson recorded *U. nanus* at Bidston and Heswell as well as *U. Gallii*, and speaks of the occurrence of "many intermediate states" or connecting links in these localities. *U. Gallii*, then a new segregate, and considered a rarity probably, being now well known and established as the common Wirral form, there is no doubt that small and weak states of it did duty for the *U. nanus* he had in view, as also the northern botanists generally, who employed the two names. These weak forms are often to be met with in Cheshire on dry hedge-banks or cops and the borders of wastes.

I recorded myself *eu-nanus* from Lower Peover Heath (?) in *J. of B.* ix. p. 8, the dried specimen having been passed as such by an eminent botanist; but I do not consider the plant now as the true thing.

GENISTA, Linn.

G. anglica, Linn.

Needle Green-weed.

The broken edges of heaths and ericetal wastes. *Sh.* May, June. Native.

1. Staley Brushes; *Buxt. G.*
2. Baguley; *Gr. Flo.*
3. By a small swampy hollow in the middle of a large field near the footpath, about half-way between Mouldsworth and Manley Lane, Manley; *Brown.*
4. At the foot of Bidston stone quarry; Near Brimstage; *Hall, Flo.* Near Eastham; (*H. Shepherd*), *Ib.* On the west side of Heswell Hill, about a mile from Gayton Hall; (*Skellon*), *Dick, Flo.* Near Barnston; (*Fisher and Webb*), *Proc. Liv. L. and P. Soc.* xv. p. 10. Frequent near Woodchurch; (*Shillito*), *Flo. Liv.* Raby; (*Miss Johnson*), *Ib.* Between Hooton and Bromborough; (*Miss Grundy*), *Ib.* Near Brimstage; (*Price*), *L. N. J.* p. 166. Landican; (*Webb*), *Flo. Liv.* Sparing in quantity in any one place, but not rare over a five-mile breadth in Central Wirral, within the limits of the ericetal soil; *Webb.*
5. About Horton, near Malpas; *Waring.*
6. Wybunbury Bog, June 1874; *Fraser, sp.*
7. Rudheath, May 1875; *Miss Mainwaring, sp.*
 (" *Genistella aculeata*, *Park.* Not so frequent this way as about London. Abundantly about Horton, near Malpas, Cheshire;" *Waring in Phil. Trans.* lxi. p. 373.)

G. tinctoria, Linn.

Dyer's Green-weed.

About field-edges, and in hard, dry pastures and wastes; also on bushy banks and the borders of thickets. *Sh.* July to September. Native.

1. In many places between Handforth and Styal; *Buxt. G.* Hyde; Withenshaw; Above Strines; *Gr. Flo.* Bunker's Hill, Romiley.

2. Near Roostherne Mere; *Hunt, sp.* Baguley; Mobberley; *Gr. Flo.* Edge of Round Wood, Tabley; White House Farm, Tabley; Hedges near the old church, Mobberley.
3. The north and south continuation of Rake Lane into Hobb Lane, west of Dunham Station; *Webb.* Field-edges at the west portion of Frodsham Marsh; In two pastures near the railway N. of Dunham-on-the-Hill Station.
4. *Hall, Flo., and Dick. Flo.,* "common;" *Flo. Liv.,* "frequent." (Having distributed the species in detail, I give Mersey Bank, between Woodhead Farm and New Ferry, as a personal record in this district.) Improved farming is reducing the plant from "common" to "occasional;" it may still be readily met with in stiff clay pastures; *Webb.*
5. Field path west from Saughton; *Manning.* Between Gortella and Balderton Bridge; By railway near Tattenhall road. [Field near Horton Hall; *A. H. Wolley Dod.*]
7. Outside Lower Peover new covert, N.E. corner.

SAROTHAMNUS, *Wimm.*

S. scoparius, Koch.

Common Broom.

Heaths, heathery wastes, banks, field-edges, and lane-sides; also on railway embankments and in plantations and coverts. *St.* May, June. Native. Ascends to 600? feet at Whaley Bridge. Personal records in 1, 2, 3, 5, 6, 7; second-hand records in 1, 2, 4, 5, 6, 7.

With us the Broom is certainly much less common than in the south of England, and around Tabley there is probably no native specimen. I doubt not large spaces of Cheshire occur without its being indigenous. It is much sown in game coverts, and, like other species with us that are often imported, occurs oftenest in any profusion on railway banks. I am unable to discriminate between the native and non-native stations in my records; therefore it seems not worth while to give a detailed distribution. A suspicious fact is that in an untouched Cheshire common full of furze it is very rarely present.

ONONIS, *Linn.*

O. spinosa, Linn. (*O. campestris*, Koch.).

Upright Rest-harrow.

Stiff soil (clay) wastes, field and pit edges, and pastures. *P.* June to August. Native.

1. "*O. arvensis.* Several places on and near the banks of the Goyt, in Marple Vale;" *Buxt. G.* The plant shown to me by Thos. Chapple near Otterspool Bridge was *O. spinosa*.
3. In Rake Lane (west of Dunham), going towards Hobb Lane, with white flowers; *Webb.* Railway bank west of Beeston.
4. Clay banks between New Brighton and Egremont; Amongst furze by the side of Wallasey Pool; *Hall, Flo.* Little Sutton; (*Slack*), *Ib.* *Dick. Flo.* says "common," and *Flo. Liv.* "frequent." May fairly be termed frequent on clay wastes in Central Wirral, *e.g.* by pits S.W. of Thornton

Hough; Roadside from Gayton Mill towards Parkgate; Between Hooton and Ledsham stations, &c.; *Webb*. Abundant between Woodhead Farm and New Ferry; Roadside, Little Soughall, S.E.; The Cop, Chester; Thornton Hough, S.W.

5. In the lane by Golbourne Belleau Farm, N.W. of Tattenhall; The lane-side between Chowley and exit into the high-road opposite to the gates of Bolesworth Castle; *Webb*. Stanford Heath, E.; Waste, Saltney road, Chester; Dee Cop, Chester. [Lower Wych; *A. H. Wolley Dod*.]
6. Near Audlem, viz. field between Brine Pit Farm and the canal; and Fields east of College Green Farm; *Webb*. In a field at Combermere; and in another by the roadside thence to Wrenbury Station.
7. A bush or two by the brook, N.E. corner of Lower Peover new cover; Again not far thence on Mr. Alcock's farm.

O. arvensis, Fries.

Procumbent Rest-harrow.

On and near the sandhills, and on sandy soil wastes, banks, and pasture grounds inland. *P.* Summer and Autumn. Native.

1. Several places on and near the banks of the Goyt in Marple Vale; Fields at Bramhall; *Buxt. G.* Bredbury; Strines; Capesthorpe, "but rather rare;" *Gr. Flo.* (Unsatisfactory; no particulars given, and Mr. Holland disclaims authority.) In a field upon Mr. John Earl's farm at Warford, between Chelford and Mobberley; (*Holland*), *Gr. Flo.*
2. Occasionally in Mobberley, as on Duckinfield Hall Farm; *Holland*. Almost absent from my home district: Quite a small patch on the Knutsford roadside just after Tabley Park wall ends; Again very sparingly in a field by the north side of Lennards Wood, Tabley.
4. "Sandy places near the sea, common;" *Flo. Liv.* And I have myself seen it over and over again on the sandhills at Wallasey, Hoylake, Parkgate, Burton, &c.
5. Plentiful on waste ground by the river (at Chester); Abundant in many places along the Queen's Ferry road, very erect in habit and slightly spinous; *Holland*.
6. Bank bordering the canal towing-path, about half a mile south of Audlem; Bank by roadside near the Cheshire frontier on road between Audlem and Norton in plenty; *Webb*.

ANTHYLLIS, Linn.

A. Vulneraria, Linn.

Common Kidney-vetch.

On the sandhills and on dry banks and wastes near to the coast. *P.* June to August. Native.

1. Meadow near Taxal; *Astley List*.
4. Being a common sandhill plant in the Liverpool circuit, stations are not specially mentioned in the three littoral Floras. I have myself seen it at New Brighton, Wallasey,

Leasowe, Hoylake, and sparingly on the Burton rocks. Adding to these Heswell Shore Heath (*Webb*), the distribution is tolerably complete in all likely places around our north and west coast-line. Mr. Brown informs me that he has not met with it on the East Wirral shore. According to *Flo. Liv.* it is rare inland, and the only localities off the coast that I have received are: Near the Docks Station; *Brown*. In the clay field behind Moreton Station; On the common land used as a clothes-drying-ground behind Cloughton village, sparingly; *Webb*.

MEDICAGO, Linn.

M. sativa, Linn.

Lucerne Medick.

The border of cultivated fields and on railway slopes. *P.* Summer and Autumn. A mere stray or relic of cultivation. Records not taken.

Lucerne.

The land in Cheshire is not at all suited (generally speaking) to the culture of this plant. It requires a deep, dry soil; it grows well on some of the driest parts of the enclosures from the River Dee, called "Sealand," particularly on the raised cops, where it is most productive, affording three good cuttings in the year.—*Palin*, p. 103.

M. sylvestris, Fries.

P. Summer. Alien or casual, and not indigenous in Cheshire?

5. Perhaps it grows about two miles westward of Chester city, in ground which once constituted part of the estuary of the Dee, before the formation of the new channel. But the state of my specimens, picked late in the year of 1850, leaves this station quite uncertain; *Watson in Cyb. Brit.* vol. iii. p. 331. But I suppose this record is certain for *Medicago "falcata," Linn.*; the locality, however, is in Flintshire.

A mass of it, some two or three yards long, in the hedge, left-hand roadside, about a mile and a half from Chester going towards the old estuary of Dee, date probably in 1850; *Watson*, 1875.

[Mr. Whitehead (*R. C. Rep.* 1877) records the occurrence of *M. falcata, L.*, on cornmill refuse at Staleybridge.]

M. lupulina, Linn.

Black Medick.

The edges of paths and on roadside and field wastes, on hedge-banks, and in pastures; also in cultivated ground, and commonly sown amongst grasses. *A.* or *B.* Spring to Autumn. Native. Ascends to 900 feet Redmoor Lane. Personal records in 1, 2, 4, 6, 7; second-hand records in 1, 2, 3, 4, 5, 6, 7.

M. denticulata, Willd.

Reticulated Medick.

On rubbish wastes and heaps, by canals, railways, docks, &c. *A.* Summer. Casual.

1. On rubbish heap near Staleybridge; Also near Micklehurst; *Baker*. As a casual by the canal below the colliery, near Furness Vale; *Webb, sp.*

2. Near Timperley on waste ground by the canal; *Gr. Flo.* and (*Bickham, sp.*) *Hunt, Hb.* Broadheath, 1862; *Hunt, sp.* By the canal at Sutton Bridge, two or three plants.

Var. β. apiculata, Syme (M. apiculata, Willd.).

2. Waste ground, Timperley, 1857; Broadheath, September 1862; *Hunt, sps.* The former agrees exactly with a single plant which came up in 1856 in an onion-bed in Tabley kitchen-garden. Query: may not rich soil shorten the spines and produce this variety? The type generally grows on the coast on the hardest and driest of banks.
4. A single specimen gathered in 1859 by the side of the Upton road, Cloughton village; (*Webb*), *Flo. Liv.*

M. maculata, Sibth.

Spotted Medick.

On dry banks and in waste ground; also on rubbish heaps, and a frequent "ballast" plant. *A.* or *B.* May to August.

2. Sale; *Buxl. G.* Waste ground, Timperley, 1857; *Hunt, sp.* On Knutsford Racecourse between the Pound and Lover's Lane, several plants every year on the rubbish heaps, but in suspicious company, *e.g. Lepidium Draba*; On the cinder-heap behind Knutsford Gaol, 1865-70, appearing every year: Again on rubbish where the road from Black Hill crosses the Midland Railway.
4. Found in July 1851 (*Supp. Dick. Flo.*), and for several successive seasons on waste ground near the shore north of Parkgate, but quite lost in 1858; (*Shillito*), *Flo. Liv.* Re-found in 1872; *App. Flo. Liv.* On the sloping bank of the second field northwards by the shore wall from Parkgate, near to the gate-entrance into the field; *Webb and J. L. W.* (All probably refer to one and the same station.)

The Knutsford and Sale stations are doubtless not native; but in favour of the Parkgate one I may add that, on the shore in Sussex, I have seen this species in a chain of nearly a quarter-mile along a bank exactly analogous to it.

MELILOTUS, Linn.

M. officinalis, Willd.

Common Melilot.

The borders of fields and on river-banks and wastes. *B.* or *P.* June to August.

1. Bramhall; (*I. Williamson*), *Gr. Flo.* (Further particulars as to situation and permanence required.) As a casual on a quarry rubbish heap near Staleybridge; *Baker and Webb.*
2. About Bowdon; *Buxl. G.* Near Runcorn; (*Wood*), *Dick. Flo.*
3. Weaver valley.
4. Little Sutton; *Hall, Flo.* By the side of a footpath near Wallasey Pool; (*"J. S."*), *Dick. Flo.* Heswell; (*Miss Grundy*), *Flo. Liv.* River-bank, north of Parkgate; (*Field Club*), *App. Flo. Liv.* I have gathered it in a field-hedge by Warrington Bridge, at the north end of Wallasey Pool,

where it looked native enough, as much so as on the Lancashire banks of the Mersey between Hale (Dungeon) Point and Speke; *Webb*. One plant in the field after crossing the Birket, near the footpath from Great Meols to Newton; (*Brown*), *Sec. App. Flo. Liv.*

M. alba, Lam.*White Melilot.*

A ballast plant, now of spontaneous growth, and becoming naturalised on rubbish heaps and wastes at a distance from the site of introduction. *B.* July, August.

2. Cinder-heap by the canal below Altrincham.
4. Reported in 1863 as covering a large tract on the south side of the Birkenhead docks; (*Webb* in *Nat. S. B.* p. 86). Now, "very fine and large about the coal-yards up the Great Float, Birkenhead; in one place quite a forest of it growing three or four feet high;" *Brown*. Perhaps a little less luxuriant than it was ten years ago, but still occupying the same ground, and has extended its range windward over a long stretch of waste ground; *Webb*, 1873.

M. arvensis, Wallr.*Field Melilot.*

In waste ground. *B.* June to August.

2. Timperley, 1868; (*Bickham, sp.*), *Hunt, Hb.* A stray example gathered in 1862 near the junction of Tabley Hill brook with the Serpentine, while that part of Tabley Park was under cultivation: a mere casual.
3. A large field, the site of "Long Ridge Allotment," near Delamere Station: evidently sown crop.
4. Waste ground near the Docks Station of the Hoylake Railway, where it has existed for many years; (*Fisher*), *Sec. App. Flo. Liv.* By the Bromborough Pool Candleworks; (*Hatcher*), *Proc. Liv. L. and P. Soc.* xv. p. 10. From what I have seen of this plant on the Lancashire side, I should not be surprised if it ultimately takes a prominent place amongst naturalised aliens in Wirral; *Webb*. On mounds of dredged mud by the Dee and Mersey Canal, north of Mollington Bridge, 1873: a casual; *Webb* and *J. L. W.*

M. parviflora, Linn.

A casual.

1. On a series of rubbish heaps in an old quarry near Staleybridge; *Baker*, 1874.
2. By the canal at Timperley, and on adjoining cultivated ground; *Hunt* in *Phyt. N.S.* ii. (1858), p. 415, and *Hunt, Hb.* 1857.
4. Among macadam of new-made roads at Cloughton in large quantity, 1863; (*Mrs. F. Boulton*), *Flo. Liv.* A common ballast plant by the Birkenhead Docks; (*Gibson, &c.*), *Flo. Liv. &c.*

M. messanensis, Desf.

A casual.

2. With *M. parviflora* by the canal at Timperley; *Hunt, l. c.* and *Hunt, Hb.* 1857 and 1859.
4. At Cloughton (new-made roads); (*Webb*), *Flo. Liv.*

TRIGONELLA, Linn.**T. ornithopodioides, DC.***Bird's-foot Fenugreek.*

Dry, sandy, and gravelly banks and wastes. *A.* or *B.* Spring and Summer. Native.

4. Waste ground along the Parkgate shore; (*Miss E. Potts, Hall, Flo.* (This station is given up as non-existent in *Flo. Liv.*) At the "Ferry House," just after leaving Parkgate northwards among the foundations of the fallen sea-wall, sparingly, but interesting as likely to be about the place where Miss Potts found the plant; *Webb, 1873.* Among short turf by the roadside, where the road widens a short distance out of Ness going towards Burton; Again on the first highish refuse heaps as you enter the colliery bounds from the south, at say $1\frac{1}{2}$ miles from (S. of) Parkgate; *Webb and J. L. W. 1873.* (The first station is about a mile S.E. and inland of the colliery one.) Bidston Hill, 1850; (*Bean, sp.*), *Hunt, Hb.*, and see *Topog. Bot.* p. 611. In company with *Mæchia* among the close turf extending ten or twenty yards around the windmill on Bidston Hill; (*Marrat and Fisher*), *Flo. Liv.* and *Lewis, sp.* Numerous fine specimens gathered in August 1854 by Mr. J. Shillito near Grange Land Mark; *Supp. Dick. Flo.* An exact locality is the piece of rocky ground at Grange at the junction of the roads leading to the Hill Houses and West Kirby, where it grows in company with *Mæchia*; *Flo. Liv.* (I saw the plant in this station in 1867.) Grows very fine amongst soft sandstone debris in "Lang Lane," between the Hill Houses and Grange, along with *Trif. striatum*, 1873; *Webb, sp.* Caldý; (*Miss Grundy*), *Flo. Liv.* Bidston, Grange, Caldý, Denna collieries and Ness is a geographical arrangement in a chain round Wirral of the known stations for this interesting plant. As usual, the east coast supplies no record.

T. Fœnum-græcum, Linn.

4. New roads (founded on ships'-ballast) at Claughton, 1863; (*Fisher and others*), *Flo. Liv.*

T. polycerata, Linn.

1. On a rubbish heap near Staleybridge; *Baker, sp.* 1874.

T. prostrata, Koch.

4. New roads, Claughton; (*Webb*), *Proc. Liv. L. and P. Soc.* xvi. p. 13.

T. corniculata, Linn.

4. New roads, Claughton; (*Mrs. F. Boulton*), *Proc. Liv. L. and P. Soc.* xvi. p. 13.

These four species are casuals merely.

TRIFOLIUM, Linn.

T. subterraneum, Linn.*Underground Clover.*

Dry, sandy, and gravelly places among turf. *A.* Spring. Native.
Rare.

4. Waste ground along the Parkgate shore; (*Miss E. Potts, Hall, Flo.* Banks of the Dee, near Parkgate; (*Miss E. Potts, Dick. Flo.* Not yet re-found here, but it flowers early, and is easily passed over. As *Miss Potts' Trigonella* has proved, after many years, correct, I shall credit her with exactness in this case, especially in view of the confirmation cited below. West Kirby; (*Byerley, Dick. Flo.*

Flo. Liv., not without some reason, designates the occurrence of this species in its district as "perhaps altogether a mistake." But this year (1874) the last station has received rather unexpected confirmation:—

"In a field near the Hill Houses, West Kirby, and in fair quantity."—*Brown, May 1874.*

T. pratense, Linn.*Common Clover.*

Fields, and borders of fields and roadsides. *B.* or *P.* Spring to Autumn. Ascends to 1750 feet at "Cat and Fiddle." Native. Generally distributed. Personal records in 2, 3, 6, 7; second-hand records in 1, 2, 4, 5, 6.

In nineteen cases out of twenty an example of this clover is not native, even when selected with special regard for getting a "really wild" specimen. In lonely spots on Sussex Downs I have gathered such plants, which have certainly a different look to the clover of the rich ground of Midland Cheshire; just as could we find *T. medium* under similar circumstances, it would present a very altered appearance to *T. medium* of alluvial plains. Still I do not think we can assume anything about the nativity or in-nativity of Dr. Syme's two varieties of this plant, *sativum* and *sylvestre*. *Sylvestre* is more likely to be native—that is all. Their differences seem to me merely differences arising from the soil which they grow upon.

T. medium, Linn.*Zigzag Clover.*

Grassy hedges, outskirts of woods, and other bushy places: requires supporting neighbours. Illustrates Mr. Watson's term "septal." *P.* Summer and Autumn. Native. Ascends to 750 feet at Overton Farm, Taxal.

1. Common through the mid-agrarian zone of the Staleybridge district; *Baker*. In several places near the Peak Forest Canal, between Furness and Strines; The lane from Overton Farm towards Taxal; Near High Ash Farm, on the road from Crag Works to Forest Chapel; *Webb*; Edge of a thicket N.E. of Lindow Common; By Lower Mill, near Cheadle; Wimslow.
2. A hedge-side, Bowdon, and a hedge-bank near Carrington; *Hunt, sps.* ("Common," according to the Manchester

F

- Floras, and stations not specified.) Roadside below the "Smoker" Inn; In a field adjoining Tabley Street.
3. Opposite to Norley "Church Sunday School, 1838;" Railway banks west of Beeston; Beeston Gate, N.
 4. Clay-banks of the Mersey, as between Egremont and New Brighton, and New Ferry and Eastham; *Hall, Flo.* Also common inland; (*Dickinson*), *Ib.* Frequent, and stations not detailed; *Flo. Liv.* Cannot be missed in right sort of places on the clay throughout Wirral: *e.g.* above the river northwards from Parkgate; Gayton; Hadlow Lane; Thornton Hough; Barnston; Mersey clay-banks; &c.; *Webb.* Noted near Bromborough; Again between Hooton and Willaston.
 5. The *Serratula* (*q.v.*) station, Golbourne Belleau, near Tattenhall; *Webb.* Rake Side, Saughton; The Greaves, Tattenhall; Tattenhall Road Station. [Near Hampton Hall; *A. H. Wolley Dod.*]
 6. Near the railway bridge over the road from Crewe towards Wybunbury; Strikingly frequent about Audlem; *Webb.*
 7. Hedge-banks, Shrigley's smithy to Astbury; *Webb.*

T. ochroleucum, Linn.

Perennial. Summer.

1. I once met with a patch near Hough End, and this year (1846) found a little near Arden Mills; *Sidebotham, MSS.* At Hyde, and near Strines; (*Sidebotham*), *Gr. Flo.*

T. incarnatum, Linn.

Crimson Clover.

An escape from cultivation.

2. Near the Grange, Ashton-upon-Mersey, 1858; *Sidebotham.* And near Bowdon; *Gr. Flo.*
4. Stray plants not uncommon in the district; *Flo. Liv.*

T. resupinatum, Linn.

A casual.

4. Gathered in 1847 by S. Thompson, of York, near the Magazines, New Brighton; *Baker* in *Phyt.* iv. p. 1143. Several Lancashire stations recapitulated in *Flo. Liv.*

For *T. agrarium*, of *Wood, Flo.* p. 54, see *T. procumbens*.

T. arvense, Linn.

Hare's-foot Clover.

In sandy fields and wastes near to the coast, and occasionally (as a seed-introduced casual) inland. *A.* July, August.

2. Rose Hill, Bowdon, 1857; *Hunt, sp.* Bowdon, with *Reseda lutea*; *Gr. Flo.* I have found the plant several times about Mobberley, but it is only an occasional visitant introduced with seeds; *Holland.* Acton Grange; *Warr. List.*
4. Abundant about Wallasey, and between Wallasey and New Brighton, *Hall, Flo.* Heswell; (*Sansom*), *Dick. Flo.* Leasowe; "Little Eye," Hilbre; North side of Heswell Shore Heath; *Webb.* Observed personally N. of Parkgate; At

Wallasey; and abundantly in coast-fields at Little Meols, near Hoylake; The Scrub, N. of Gayton Cottage.

5. In a large quarry close to Waverton Station; (shown to me by E. J. Baillie).

T. striatum, Linn.

Knotted Clover.

Dry banks, wastes, and pasture-edges, and in sandy ground with short turf. *A.* Summer.

3. Amongst the turf on Eddisbury Hill, near the Saxon camp; (*Bickham*), *Proc. Manch. L. and P. Soc.* viii. In moderate quantity at Eddisbury Hill, a large patch was covered with it: the specimens were not very fine, as it was growing among and was rather choked by the grass: it appeared permanent; *Bickham*, *MSS.* The ascent to Beeston Castle from the gateway, sparingly.
4. Scattered over the farther half of the first field past the limekiln on the coast leaving Parkgate Parade northwards; and again in the second field on the bank with *Medicago maculata*; Also close to the site of "Heswell Cottage" on the coast below Heswell; Again $1\frac{1}{2}$ mile south of Parkgate, on the coast, in good quantity, but very starved and stunted among the short vegetation of a croft through which the footway passes behind the Denna Colliery; Also on the high refuse heaps of the colliery, approaching it from the south; and in some shingle under the wall which skirts the coast at, say, half-a-mile N. of Burton Point; *Webb and J. L. W.* By the footpath over Grange Hill; Also within a few yards of Grange Landmark; (*Shillito*), *Flo. Liv.* Plentiful by the roadside near Arrow Brook; (*Fisher and Webb*), *Proc. Liv. L. and P. Soc.* xv. p. 11. Near the old schoolhouse at West Kirby; In sandy ground near Leasowe Lighthouse; Wallasey; (*Webb*), *Flo. Liv.* In sandy fields between West Kirby and Leasowe; (*Miss Grundy*), *Ib.* Soughall Massie; (*Lewis*), *App. Flo. Liv.* (*Note*.—Though neither Hall nor Dickinson recorded the species, we have now a sufficiently copious string of habitats dotting the coast from a little above Burton Point to Wallasey, and inland records at Arrow and Soughall, &c. No stations, however, on the east coast, as usual.) Waste ground by the roadside close to the bridge which carries the old Chester road over the Parkgate railway; *Webb*.
5. The north fork of the lane a little east of Milton Green.

T. scabrum, Linn.

Rough Clover.

Dry banks and pastures. *A.* Summer. Error? One record.

4. Waste ground along the Parkgate shore; (*Miss E. Potts*), *Hall, Flo.* 1839.

Not found since, but the case of *T. subterraneum* makes it possible that Miss Potts may even at this distance of time be corroborated hereafter. Still, in this case, it is likely that a starved coast form of *T. striatum* was gathered; for Miss Potts does not send Hall

any record of the last species, which is certainly by no means rare at Parkgate, and exists within a few yards, one may say, of her probable station for *Trigonella*, at the limekiln just north of that town.

T. hybridum, Linn.

Alsike Clover.

Borders of fields, wastes, roadsides. *P.* Summer and Autumn. Alien.

1. Established along side of road in the Brushes Clough, near Staleybridge; *Baker*. Along side-road at Higher Disley; *Webb*.
2. Cultivated at Sale, 1863, and in loose ground between Sale and Carrington, 1864; *Hunt, sp.* (as *T. elegans*). In a field between Tabley Hill and the Red Lodges, 1867: only a plant or two. Not mentioned by Buxton or Grindon, 1859: latter has one Lancashire station on Mr. Percival's authority (*elegans*).
3. Field-sown grass, Long Ridge Allotment, Delamere.
4. Sandy road-waste at Arrow Brook, June 1860; *Webb in Phyt. N.S.* iv. p. 316, and *sp. Hunt, Hb.* Not given in *Hall, Flo.* or *Dick. Flo.* In 1873 I observed it with Mr. Webb in a field near the railway at Parkgate, and profusely in another at Haddow Road Station, Thornton Grange.
5. Crop-grown and a waif near Tattenhall, 1874; *Lewis*. Tattenhall Station, W.; Milton Green.
6. Wybunbury (as *elegans*); *Matthews, sp.*, 1874. About Audlem, 1874; *Webb*.

I have given these meagre data as this clover is rapidly establishing itself through England, and it is important to fix the date of its appearance in Cheshire. A field is sown with it and then cut, but some plants remain at its borders and spread into roads and adjoining wastes.

T. repens, Linn.

Dutch Clover

Waste places, roadsides, pastures, heaths, moorlands, meadows, &c. *P.* Spring to Autumn. Native. Ascends to 1750 feet at the "Cat and Fiddle." Personal records in 1, 2, 3, 4, 5, 6, 7; second-hand records in 1, 2, 3, 4, 5, 6, 7.

This species is clearly in many instances native, but we must discount a good percentage among its occurrent individuals for strays from cultivated crops or specimens in actual cultivation.

There is, perhaps, no county in England where the pasture-lands (particularly the poorer soils) have been so much improved during the last ten or twelve years as in Cheshire, and this principally by the application of what is termed "bone-dust." This extraordinary manure has a peculiar effect upon the poor clay-land pastures, for on the application of boiled bones a sudden change takes place in the appearance of the fields, and instead of the carnation-leaved or "pink grass," which so much abounds on this kind of land, a luxuriant herbage presents itself, consisting of red and white clovers, trefoil, and other grasses, of which cattle are so fond that they eat up almost everything before them; even

thistles and rushes are very much weakened, and eventually reduced, by being constantly eaten off by stock after pastures have been "bone-dusted."—*Palin*, p. 98.

T. fragiferum, Linn.

Strawberry Clover.

In grassy marsh ground, and damp sandy grass-grown wastes, generally near the coast. *P.* Summer and Autumn. Native.

4. Bidston Marsh; *Hall, Flo.* Hoylake; *Dick. Flo.* Damp grassy ground near the shore, frequent; *Flo. Liv.* In a salt marsh half-a-mile S. of Parkgate, 1867; All round the cottage near Wallasey Pool, on the marsh; Plentiful on the roadside as you reach Hoylake Racecourse from West Kirby; The Cop, near the boundary, Chester; Blacon Point road, Chester.
5. A common wayside plant near Chester, plentiful on waste ground near the river there; *Holland.* Grassy places by the roadside between Chester and Blacon Point; *Webb.* Plentiful on Dee-side below the Rood Eye, Chester.

T. procumbens, Linn.

Hop Clover.

Dry wastes, pastures, in and about the borders of cultivated fields, &c. *A.* June to August. Native. Ascends to 1000? feet at Long Side, Disley. Personal records in 2, 3, 4, 5; second-hand records in 1, 2, 4, [5], 6, 7.

T. agrarium of Wood's Flora, p. 54, from (2) Carrington, is a large state of *T. procumbens*; *Sidebotham, MSS.*, and *sp.* from Roostherne fields, 1843, labelled *var. pseudo-agrarium*.

T. minus, Relhan.

Lesser Clover.

In pastures, and amongst the turf of roadside wastes, commons, field-edges, &c. *A.* Spring to Autumn. Native. Ascends to 1000? feet at Long Side, Disley. Personal records in 2, 3, 4, 7; second-hand records in 1, 2, 4, 5, 6, 7.

T. filiforme, Linn.

Slender Clover.

In the turf of lawns, grassy wastes, commons, and dry pastures. *A.* Spring to Autumn. Native.

1. Roadsides between Alderley and Mobberley (examples of *minus* are intermixed with the real plant); Near Wimslow; *Hunt, sps.*
2. Near Bucklow Hill; In a lane leading from Ringway Chapel to Cotterill Wood; *Buxt. G.* In the turf before Tabley Old Hall, 1864; In Tabley New Hall front garden, also in the grass, 1867.
3. Near Dunham, in the N. and S. part of Rake Lane that joins Hob Lane; *Webb.* On the river-brow east of and below Weaverham, where the stream takes a sudden bend; Amongst macadam in the road a little south of Elton Green; Lane between Hough House and Plemstall.
4. *Hall* joins this with *T. minus*; *Dick. Flo.* says "frequent," and *Flo. Liv.* "occasional," noting that records are deficient.

Edge of field, Noctorum; (*Webb, sp.*), *Hunt, Hb.* Waste ground, New Ferry; *Lewis, sp.* In a lane near Gayton Hall; In a grassy field-lane parallel with the railway for half-a-mile between Neston and Hadlow Road Stations; The lane from Willaston Mill to Hargrave Hall, near the latter (with *T. minus*); *Webb.* By Bleaky Brow corner, W. of Bromborough Station; Grassy roadside between Gayton Mill and Toll-gate.

5. By the side of Little Heath Pool, Christleton. [Edge Green Bridge; *A. H. Wolley Dod.*]

LOTUS, Linn.

L. corniculatus, Linn.

Common Lotus.

Pastures and wastes, banks and sides of roads, the sandhills, &c. *P.* Summer. Ascends to 1750 feet at the "Cat and Fiddle." Native. Generally distributed. Personal records in 2, 3, 4, 5, 7; second-hand records in 1, 2, 4.

The coast *var. crassifolius*, *Syme*, is reported as frequent on the sandhills in *Flo. Liv.* It is merely this species growing on a sea-bank instead of in an inland Cheshire pasture.

L. tenuis, Kit.

Slender Lotus.

In damp pastures, meadow ground, or grass wastes, on a clay or stiff soil. *P.* Summer.

2. About Bowdon; Altrincham; and between Cotterill Wood and Baguley Moor; *Wood, Flo.* Baguley Moor; Altrincham; *Buxt. G.* (These records require confirmation. There are no specimens in *Hunt, Hb.*, and I have never seen the plant in my home district.)
4. No Cheshire station in *Flo. Liv.*, and one only in Lancashire, viz. Hayton Quarry (*Webb*), whence there are specimens in *Hunt, Hb.* dated 1860. *Dickinson* evidently does not understand the plant, as he records it vaguely as a mere *var.* without specifying stations, and as a plant occasionally met with on the sandhills. *Hall* merely mentions it as an altered state due to "poor barren soil," which does not sound at all like the place to find *L. tenuis*, *Kit.* He specifies "the side of the new Bidston road, just beyond Gilbrook" (4). *Flo. Liv.* awakens more to the difficulties of the case and says, "very rare; perhaps has been overlooked;" following this with Mr. Webb's one station beyond our county.

In this case, unlike *crassifolius*, the differences from the type *corniculatus* are certainly of sub-specific, possibly of specific, value.

I have no specimens gathered in the county as yet. I am given in *Topog. Bot.* as having seen the plant in Cheshire, a mistake arising from one of the second-hand records above being read as a first-hand one.

L. major, Scop.*Greater Lotus.*

Moist meadows, under hedges, in rich bushy places. *P.* Late Summer. Native. Generally distributed. Personal records in 2, 7; second-hand records in 1, 2, 4, 5, 6.

Flo. Liv. notes that of the two forms, *sub-glaber* and *hirsutus*, into which this species is divided by Dr. Syme, the former is the common plant in its district. Mr. Webb notes *hirsutus* among other places at Claughton (4) in damp spots by the roadside. My Tabley specimens are also *sub-glaber*.

ORNITHOPUS, Linn.**O. perpusillus, Linn.***Common Bird's-foot.*

On dry sandy heaths and heathery and sandy wastes. *A.* May to August. Native.

1. Top of Werneth Low; *Sidebotham, MSS.* Red Lion Common.
2. Baguley Moor; *Wood, Flo.* Dunham; *Buxt. G.* About Mobberley; On the lawn at Tatton Park; *Gr. Flo.* Field near Ashley; *Hunt, sp.* Appleton; *Warr. List.* Tabley Hill sandpit, &c.
3. Waste ground in the lane called "Common Side," between Helsby Hill and Alvanley Cliff, and at Manley; *Brown.* Vale Royal; Oakmere; Road-edges and sandy banks in the Delamere district, frequent; Lane by Langley Covert, Ashton Hey.
4. Heswell Hill, &c., and spoken of as "common" in the three Floras; Bidston, Oxton, Wallasey, and North Wirral generally being specially mentioned.
5. Bickerton Hill; Waverton Quarry; Chester, two miles N.
6. The waste sandy piece of ground at the junction of roads at Bunsley Bank, near Audlem; Seen also somewhere between Audlem and Wybunbury, locality forgotten; *Webb.*
7. Peover Heath.

No doubt so general in the right places that the above detailed statement of stations is almost superfluous. Still when in doubt, I always, as safest, give the distribution of a species.

O. compressus, Linn.

Ballast heaps and waste ground by Birkenhead Docks, 1860-61; (*Webb and Fisher*), *E. C. Rep.* 1861, and *Flo. Liv.*

Coronilla varia, Linn.

Near Upton; (*Skellon*), *Proc. Hist. Soc.* vii. (1855), p. 171. Roadside at Frankby; *Flo. Liv.* (I have known it here for ten years, 1863-73; *Webb.*)

VIOLA, Linn.**V. hirsuta, Koch.***Hairy Vetch.*

In arable fields, and about the neighbouring hedges, roadsides, and wastes. *A.* Summer. Native. Personal records in 1, 2, 3, 4, 6, 7; second-hand records in 1, 2, 3, 4, 5, 6.

V. tetrasperma, Moench.*Four-seeded Vetch.*

Arable fields, and occasionally on neighbouring roadsides and wastes.
A. June, July. Native.

1. About Northen; *Buxt. G.* As a casual on a rubbish heap near Staleybridge; *Baker.*
2. Sale, July 1859; *Hunt, sp.* In cornfields now and then about Carrington and Lymm; *Sidebotham.* A field manure heap near the canal below Altrincham.
3. The roadside banks between Bridge Trafford and Dunham.
4. By the lane-side at Knowles', Claughton; *Hall, Flo.* (This is the only Cheshire station mentioned in the three Floras.) I have seen it for many years running in the crop of the "Sandcroft," Claughton Village, and do not remember other stations; *Webb.* Between Chester and Little Soughall.
5. Roadside opposite to Rushall Hall, near Tattenhall; *Newbould and Webb.* Hedge of second field above Lea Hall Farm, near Aldford.

V. Cracca, Linn.*Tufted Vetch.*

Woods, hedgerows, and other bushy places, field-edges, &c. *P.* Summer. Native. Ascends to 900 feet, Redmoor Lane. Personal records in 2, 3, 4, 7; second-hand records in 1, 2, 4, 5, 6, 7.

V. sylvatica, Linn.*Wood Vetch.*

Open woods and dampish bushy places. *P.* Summer. Native.

1. At Bramhall; (*Williamson*), *Gr. Flo.*
2. Banks of the Bollin; *Holland*, p. 178. In Cotterill Wood; *Wood, Flo., and Hunt, sp.*, 1858 and 1864, very fine; Also on the wooded banks of the Bollin, near Cotterill Wood; *Buxt. G., and Holland*, 1873. Cotterill Clough.
3. Woods near Vale Royal; (*Okell*), *Lys. M. Brit.* The clough below Knights Grange, near Over, abundant; (*Anon.*), *Phyt. iii. N.S.* p. 245.
5. [Lower Wych; *A. H. Wolley Dod.*]

V. sepium, Linn.*Bush Vetch.*

On hedge-banks, and in woods, cloughs, and other shaded places. *P.* Summer. Native. Ascends to 1750 feet at the "Cat and Fiddle." Personal records in 1, 2, 3, 7; second-hand records in 1, 2, 4, 5, 6, 7.

V. lutea, Linn.*Yellow Vetch.*

On shingles by the sea. *A.* Summer and Autumn. Casual? Now extinct.

4. *Vicia lutea* was found in 1862 by Miss Grundy on the banks of the River Dee, near to West Kirby, where the chances of its being introduced were very improbable; and had it still existed in the locality, we should have had no hesitation in entering it as indigenous; but unfortunately, during the heavy storms of February 1863, the bank for a long distance was swept away, and all traces of the plant lost; *Flo. Liv.* Miss Grundy showed it *in situ* to Mr. Webb

(see *Topog. Bot.*), who passed it as indigenous. I have seen the specimen in Mr. Watson's herbarium; the ticket runs—"On the Cheshire bank of the River Dee, below the village of Caldy, in West Wirral, July 11, 1862.—*F. M. Webb.*" This ticket localises the plant at a mile S. of West Kirby, on the coast. The extinction of this station renders the discussion of this species' nativity on Cheshire shores less necessary; but I own I am strongly disposed to deny it any admission into our Flora except as a casual. I have gathered the plant at Shoreham, and anything more unlike the coast at West Kirby cannot be imagined. Between the coasts of Ayr and Somerset there is no authentic record of its native occurrence.

(When I went specially to see the plant under the guidance of Miss Grundy, we saw but a small quantity of it, but that small total was not confined to a single spot, and the impression was that it was a plant being crowded out by vegetation more at home in the place of growth, rather than a casual introduction: indeed I can with present experience hardly look upon it as other than having had a very long existence where it was situated.

I have a perfect recollection of the site and surroundings of the *Vicia lutea*, as it was shown to me by Miss Grundy. There was not much of it, but it was not confined to one spot, and required searching for, on account of the larger vegetation which was overpowering it. Indeed it gave one just the idea of a plant being killed out: in all points the very reverse of a recent introduction. I had written to the above purport when I met with the following, which may afford an explanation. The date is 1621, and Mr. Webb writes: "And so we come to the two townships, Great and Little Caldy. Near unto which lies the station or landing-place for their boats and barges, with their laden and unladen commodities, called the Red-bank: so I take it from the colour of the rock on the shore brink."—*William Webb, A.M., in King's "Vale Royal of England,"* 1656. I will not object to an introduction as a ballast plant as far back as this would suggest; indeed it would rather meet my views of the case, bearing in mind, as I have all through, the geographical distribution facts. The wharf he refers to must have been within a stone's-throw of the ground where I saw the *Vicia* in 1862. *Qy.* Might not *Avena pubescens* be similarly accounted for? *Webb, MSS.*)

V. sativa, Linn.

Cultivated Vetch.

Fields, hedges, and wastes. *A.* or *B.* Spring to Autumn. Personal records in 2, 3, 4, 6, 7; second-hand records in 1, 2, 4, 5, 6.

Simply a stray or relic of cultivation.

V. angustifolia, Roth.

Narrow-leaved Vetch.

Dry banks, waste hard ground, short barren pastures, &c. *A.* Spring and Summer. Native.

1. Near Staleybridge; *Baker.*
2. In several places: Hedge-bank in a lane between Altrincham and Hale-barns; About Dunham; Between there and

Rostherne; *Buxt. G.* Chester road, near Rostherne; and Timperley; *Hunt, sp.* In dry turfy spots in Tabley Garden wood.

3. At Oakmere, on the dry glacial banks of the Mere; The Chester roadside, near Sandiway Head; Woodside near Mouldsworth Station; Delamere to Hatchmere.
4. Certainly frequent in Wirral, and in the short grassy places amongst the sandhills, in spring, the small form (*Bobartii*, I suppose) is common: it is sometimes picked as *V. lathyroides*; *Webb*. Just out of Hoylake, northwards; Bromborough Station, W. (Given as "frequent" in *Hall, Flo.* and *Dick. Flo.*, and as "common" in *Flo. Liv.*)
5. Noted as frequent in middle and south of this Hundred; *Webb*. Broxton Hill; Higher Burwardsley; Milton Green.
6. Only once seen about Audlem, namely, at Huntsterston, and then a single specimen merely; *Webb*.
7. Near Brookhouse Moss.

This is the truly wild vetch; both the general aspect of the plant and the kind of place it grows in keep it easily distinct from the sown or escaped tare, *Vicia eu-sativa*. It is a common plant, but, as rather local in my home district and somewhat confused with its congener, I have given the distribution.

Var. β. Bobartii, Koch.

This is "a weakly state, not even a real variety," passing insensibly into *V. angustifolia*, and intermediates consequently occur: (see *Syme, E. B.*)

1. Banks of the Tame from Houghton to Arden on waste ground; *Sidebotham, MSS.* and *Gr. Flo.*
4. Observed on both sides of the Mersey in dry pastures, &c. Probably frequent; *Flo. Liv.* No stations given.
5. [Bickerton Hill, with white flowers; *A. H. Wolley Dod.*]

V. lathyroides, Linn.

Spring Vetch.

Amongst the scanty turf of sandy banks near to the sea, and on dry commons inland. *A.* Spring to early Summer. Native.

1. Macclesfield Common and the road to Broken Cross; (*Bradbury*), *B. G.* (Not recorded in *Buxt. G.* and *Gr. Flo.*, which include this range.)
4. New Brighton, May 1850; (*Sansom*), *vide Watson*. About the Magazines and about Wallasey, and between there and New Brighton; *Hall, Flo.* (This is practically repeated in *Dick. Flo.*, and *Flo. Liv.* simply says, "The sandhills. Frequent.") Near New Brighton, 1861; (*Webb, sp.*), *Hunt, Hb.* I have seen very little of this in Wirral, only at New Brighton and Wallasey: it appears to elude me; *Webb, MSS.* "New Brighton, May 1850;" (*Sansom, sp.*), *Watson, Hb.* I saw it young on the sandhills there in 1837, and was not quite certain as to right name: Mr. Sansom's specimen is in pod, and appears true; *Watson, MSS.* Near the Hill Houses at West Kirby.

LATHYRUS, Linn.**L. Nissolia, Linn.***Grass-leaved Pea.*

Among low bushes and in grassy margins of fields and lanes. *A.* Summer. Native.

5. Blacon Point; (*Okell*), *Lys. M. Brit.* On the left-hand grassy margin of the lane between Clayley Farm (a mile west of Tattenhall) and Milton Green: 100 yards before reaching the small watercourse that crosses the road, as marked on the Ordnance Map, July 1873; *Newbould and Webb*. (See *Topog. Bot.* p. 615, where Mr. Webb adds of this station, that there was nothing in the surroundings to point to introduction, and refers to the above old record.) Roadside between Chester and Aldford. [Roadside near Stretton Hall: very rare; *A. H. Wolley Dod.*]

L. pratensis, Linn.*Meadow Pea.*

Moist pastures, in hedges and thickets, field and road margins. *P.* Summer. Ascends to 900 feet at Redmoor Lane, Disley. Native. Generally distributed. Personal records in 2, 4, 7; second-hand records in 1, 2, 4.

L. palustris, Linn.

I have a specimen labelled "*Lathyrus palustris*, Cheshire," in the handwriting of the Rev. A. Bloxam, from whom it came to me. No date or more special localisation.

L. sylvestris, Linn.*Everlasting Pea.*

Hedges, thickets, and bushy places. *P.* Summer and Autumn. Mis-recorded.

- [2.] Sutton Bridge, Frodsham; (*John Harrison*, 1850), *Dick. Flo.* Mr. Robinson fails to find this at Sutton Bridge; *Flo. Liv.*

(For other records of Mr. John Harrison, see under *Hypericum hirsutum*, &c.)

OROBUS, Linn.**O. tuberosus, Linn.***Tuberous Bitter Vetch.*

On bushy banks and in open woods, thickets, &c.; also on the moors. *P.* Spring and Summer. Native. Ascends to 650 feet at Disley. Personal records in 1, 2, 6, 7; second-hand records in 1, 2, 4, 5, 6.

I saw this in great profusion on a moor near Woodhead. It is always worth noticing a common plant in an unusual situation. I never saw such a mass of the species at once before or since.

[*Cicer arietinum*, Willd. A casual.

On cornmill refuse at Staleybridge; (*Whitehead*), *R. C. Rep.* 1877.]

ROSACEÆ.**PRUNUS, Linn.****P. spinosa, Linn.***Blackthorn Prunus.*

In hedges, thickets, and on commons, wastes, moorlands, &c. *Sh.* Spring. Native. Personal records in 1, 2, 3, 4, 6, 7; second-hand records in 1, 2, 3, 4, 5, 6, 7.

P. insititia, Linn.*Bullace Prunus.*In hedges. *Sh.* Spring. Native.

- Not unfrequent; *Buxt. G.* Hedges near the Vicarage at Bowdon, 1859; *Hunt, sp.*
2. Hedges in the Round Wood, Tabley, towards Flitto Gate; On Tabley Hill.
 3. Field-hedges between Beeston Moss and "Park Gate;" Bulkeley, E.
 4. Oxtun; (*Dickinson*), *Hall, Flo.* In hedges near Cloughton, and at Bidston; Moreton; and West Kirby, sparingly; (*Webb*), *Flo. Liv.* Seacombe; I believe, but am not sure at this distance of time, that I gathered this on the cliff (clay-bank) shore of Mersey, between Seacombe and the "Red Noses;" *Watson.* Common in the hedges towards Soughall from Chester.
 5. Common in the field-hedges, &c., about Lea Hall Farm and Aldford.
 7. New Cover, Lower Peover; In hedges at Byley Brows, near Middlewich.

P. domestica, Linn.*Wild-plum Prunus.*In hedges. *T.* Spring.

I have seen this personally (1) in a hedge near Chelford Station, and in the Liverpool Floras it is stated to occur "occasionally" in their circuit, "but always suspiciously situated," and no reliable localities are named. Up to the present no records have been communicated to me. It is not entered in the Manchester Floras.

P. Avium, Linn.*Merry Prunus.*Woods and hedges. *T.* Spring. Native.

1. Near Stockport; *Mr. Stonehouse (v. infra).* Arden Wood, Reddish Vale; Near Marple, plentiful; *Buxt. G.* A wood between the Reservoir and a farmstead called Reddish, near Whaley Bridge, fine; *Webb.* The banks at the junction of the Etherow and the Goyt.
2. Near the river Bollin below Dunham; *Buxt. G.* Lymm, abundant near the upper end of the Mere, and ripening its fruit plentifully; The steep banks of the Bollin, abundant; *Gr. Flo.* Not unfrequent in Mobberley, where it is called "White Merry;" *Holland.* Mid-Cheshire is, I suspect, head-quarters for *P. Avium*, Linn: there are trees 40 or 50 feet high in Tabley Wood; A wooded clough at Rock Savage.
3. Some of the lanes up Helsby Hill; Hedges between Dunham and Peek Mill.
4. Confused records only in the Liverpool Floras: evidently not frequent. See under *P. Cerasus.*
5. Dee Bank, opposite Heron Bridge, above Chester.

Cerasus syl. fructu minimo cordiformi non descripta. The least wild Heart Cherry-tree, neere Stockport, and in other places in

Cheshire. The country people call it the Merry-tree. Whence I should thinke it the *Merasus* of the Hungarians (mentioned by *Clusius Pannon*, lib. cap. 24) had not hee said that hath black Berries, whereas this hath them of a delayed red; which notwithstanding they may bee severall species.—(*Mr. Stonehouse*), *How*, *Phyt. Brit.* (1650), p. 25.

This record has been given by Ray throughout his works, and it has been repeated in many others. In "*Magna Britannia et Hibernia*" (1720), vol. i. p. 287, under Cheshire, is stated, "The Herbs of this county are all of the ordinary kinds: Our Naturalists observe only one rare Plant, which is *Cerasus*," &c.

There can be no reasonable doubt that *P. Avium*, *Linn.*, is the plant *Mr. Stonehouse* had in view. See *Leight. Fl. Shrop.* on this subject, pp. 523–527.

P. Cerasus, Linn.

Morello Prunus.

Woods, hedges, thickets. *Sh.* Spring.

1. Abundant in the Goyt Valley, Marple, Romily, and Bredbury Wood; Also in the Tame Valley: truly wild; *Sidebotham*. (*P. Cerasus* of some authors = *P. avium*; so in this record probably ?.)
2. Ashley, 1859 and 1860, "shrubs in hedges 4 and 8 feet high;" *Hunt, sp.* (No flowers or fruit, but I believe correct.) Neither Buxton nor Grindon includes this, and it is evident that they omit it deliberately.
3. Calterhall (Cattenhall) and Durnsdale Valley; (*Robinson*), *Flo. Liv.*
4. Seacombe, by pits; (*Watson*), *Hall, Flo.* Mr. Watson probably alludes to this station in *Topog. Bot.*, "Chester! Bird-sown," and in his MS. notes (1867) he thought it likely to have been built over. Bebbington; and Bromborough Pool, common; (*Skellon*), *Dick. Flo.* (This station may apply to *P. avium*, as the two species of Cherry are lumped in the two older coast Floras. I have seen the trees at Bromborough, to which I presume this record refers: they are to be found at the edge of a small spinney opposite the Candleworks, but I could only make them *P. avium*.) The outskirts of a plantation on Mersey banks near Eastham: doubtfully native; (*Webb*), *Flo. Liv.*

"Though inclined to accept this as an indigenous shrub, I do so with no positiveness;" *Topog. Bot.*

I have several times brought home specimens of a shrub-like cherry generally composing part of a hedge (of which about Tabley the wild (or "Merry") cherry often appears as a factor), but I could never be sure, on mature examination, that I had not got clipped Merry (*P. Avium*, *Syme*) rather than the true Morello.

P. Padus, Linn.

Bird-cherry Prunus.

Woods, wooded cloughs, thickets, and hedgerows. *T.* Early Summer. Ascends to 700 feet at Taxal.

1. Woods, Disley; (*Holme*), *B. G.* Reddish Vale, abundant;

Near Marple Aqueduct, plentiful; *Burt. G. and Sidebotham*. I know this well in the Disley neighbourhood, where it is as common in hedges and thickets as in the North, and I should say certainly wild; *Holland*. Millbrook (Staley) Great Wood, and by a brook on hill-slope above Hollingsworth in Etherow Valley; *Baker*. In Widow's Clough, a quarter-mile south of Taxall, wild; The wooded bank that bounded the old course of the Goyt a little above New Mills: wild, I think; Also in many places from Whaley Bridge to Marple; *Webb*. The wooded belt at the higher part of Gatley Carrs, planted probably; The banks at the junction of the Etherow and Goyt; Clough by the Huddersfield road, near Woodhead.

4. Woods and hedges on both sides of the Mersey, *e.g.* Eastham, but probably not native; *Dick. Flo.* (Note.—The few trees observed in the Liverpool radii are so evidently planted, that I might as well introduce into this Flora a tree from a Squire's avenue.)

SPIRÆA, Linn.

S. salicifolia, Linn.

Willow-leaved Spiræa.

Hedges in moist situations, open woods near gardens. *Sh.* Late Summer and Autumn. Planted. Rare.

1. Hedge-bank about a mile south of Gatley Carr, Cheadle, probably planted; *Burt. G.*
2. In a plantation on the edges of Carrington Moss, planted; Well established for over a hundred yards, in patches, in a hedge by the footway between Tabley Grange Farm and the Brook: here the remains of an old nursery-ground, but probably as good and permanent a station as can be got for this evident alien.
4. Occasionally met with as a stray from cultivation; *Flo. Liv.* (No station given.)
5. [Plantation in Aldersey Park; *A. H. Wolley Dod.*] Always of garden or nursery-ground origin.

S. Ulmaria, Linn.

Meadow-sweet Spiræa.

Trenches in moist meadows, pit sides, and other damp and shaded places. *P.* Summer. Native. Personal records in 1, 2, 3, 4, 6, 7; second-hand records in 1, 2, 3, 4, 5, 6, 7.

AGRIMONIA, Linn.

A. Eupatoria, Linn.

Common Agrimony.

Dry pastures, banks, and wastes. *P.* Throughout the Summer. Native. Ascends to 300 feet in 5. Personal records in 1, 2, 3, 5, 6, 7; second-hand records in 1, 2, 4, 5, 6, 7.

Confined to the low country, and unequally distributed; but not sufficiently uncommon, according to the records I possess, to warrant my enumerating localities.

[A. odorata, Mill.

P. Summer. Native. Local.

5. Lower Wych; *A. H. Wolley Dod.*]

SANGUISORBA, Linn.**S. officinalis, Linn.***Great Burnet.*

Moist meadows and damp grassy banks. *P.* July to September. Ascends to 900 feet in 1. Native. Rare.

1. In meadows near the banks of the Tame, in Reddish Vale, plentifully; *Buxt. G.* Abundant near the Mersey at Northen; About Strines; *Gr. Flo.* Meadows above Tintwistle in Etherow Valley; *Baker and Webb, sp.* The border of a field at the upper part of Redmoor Lane, near Newtown New Mills; The non-towing-pathside of the canal near the first bridge out of New Mills in the Furness direction; Meadow by the River Goyt half-way between New Mills and Furness; By the sides of the semi-private road between Goyts Bridge and the Powder Mills; Near Overton Farm, three-quarters of a mile south of Taxal; Steep bank of a field opposite to "High Ash," on the road from Forest Chapel to Crag Works; *Webb.* By the roadside descending the hill from Tintwistle to the railway, plentiful; In several places near the Mersey at Cheadle Station; By footpath alongside the railway between Gatley and Northenden; The "no road" path to the junction of the Etherow and Goyt.
2. In fields bordering the Mersey; *Wood, Flo.* In a field between Weston Canal and Aston Hall; (*J. Harrison*), *Supp. Dick. Flo.* A few plants on the north bank of the River Weaver, by Park Wood, a short distance E. of the Dutton or Acton Viaduct, in 1872; *Brown.*
5. Meadow on the west side of the River Gowy, near Stapleford Bridge, 1½ mile N.E. of Waverton; *Brown.* The S.E. part of the Eaton Hall grounds, by the pathway in the woods near to the river; *Newbould and Webb.* The first field north of the Iron Bridge in Eaton Hall grounds; Watercourse-side a mile south from Boughton.
7. By Bradshaw Brook, near Lower Peover, somewhere opposite the letter "e" of Hulme (Lane) on the Ordnance Map.

The distribution of this species may be summed up by saying that it is frequent in 1 in the valleys of the principal streams forming the Mersey; that it descends into 2 along the banks of that river; that it is decidedly rare in Central Cheshire, and has not yet been met with in Wirral.

POTERIUM, Linn.**P. Sanguisorba, Linn.***Salad Burnet.*

General locality is dry calcareous pastures and banks. *P.* June to August. Not native. Error.

1. Meadows near the Goyt; *Astley List.* Probably *Sanguisorba officinalis* is intended.
4. Near Wallasey, on the road to New Brighton; (*Mr. Maughan*), *Dick. Flo.*

This plant has not been met with by any of the present generation of our

Cheshire botanists, and there is little doubt that it was an accidental introduction and has passed away, or that some mistake has been made in recording this chalk-loving species. No specimen in confirmation of the locality exists in Dr. Dickinson's Herbarium.

ALCHEMILLA, Linn.

A. arvensis, Scop.

Parsley-Piert Alchemil.

In cultivated fields and on wastes, on light gravelly soils. *A.* May to August. Native. Generally distributed. Personal records in 1, 2, 3, 4, 5, 7; second-hand records in 1, 2, 4, 5.

A. vulgaris, Linn.

Lady's-mantle Alchemil.

In pastures and grassy wastes, chiefly in the hilly districts, also in meadows. *P.* May to September. Native. Ascends to 1700 feet at the "Cat and Fiddle." Personal records in 1, 2, 3, 7; second-hand records in 1, 2, 4, [5], 6, 7.

This species decreases in frequency with us from east to west. In Hundred 1 it constitutes a large factor of the pasturage vegetation above 600 feet. It is scarce in 4.

In his *Hist. Plant.* (i. p. 209) Ray speaks of this plant "as abounding in the mountainous pastures of Yorkshire and Derbyshire, where the country people call it Bearsfoot," a name still used for it in similar parts of East Cheshire.

POTENTILLA, Linn.

P. Fragariastrum, Ehrh.

Strawberry Cinquefoil.

On sunny hedge-banks and cops, and on dry roadside and pasture-banks. *P.* Spring. Native. Second-hand records in 1, 2, 4, 5, 6, 7.

P. Tormentilla, Sibth.

Heath Cinquefoil.

Heaths and heathy and peaty pastures, woods, and wastes. *P.* Summer and Autumn. Native. Ascends to 1750 feet at the "Cat and Fiddle." Personal records in 1, 2, 3, 4, 5, 7; second-hand records in 1, 2, 3, 4, 5, 6, 7.

P. procumbens, Sibth.

Procumbent Cinquefoil.

Dry hedge and field banks and rough roadside wastes. *P.* Summer and Autumn. Native.

1. In the Staleybridge neighbourhood; Also roadside hedge-bank about half-way between Broken Cross and Pexhill, near Macclesfield; *Webb, sp.* Edges of Glead Moss, Lower Withington, S. of Chelford.
2. Hedge-bank at Ashley; and on the railway incline at Bowdon Station; *Hunt, sp.* In Frog Lane, between Tabley and Pickmere. (*Note.*—Stated to be "very common" in the Manchester Floras, and stations not specified.)
3. Lane by Langley Covert, Ashton Hey; Dunham-on-the-Hill.
4. No stations are named in the Liverpool Floras. *Dick. Flo.* says "common," while *Flo. Liv.* only states "frequent."
5. ["Common;" *A. H. Wolley Dod.*]

Var. γ. mixta, Nolte.

4. Grange Hill, near West Kirby; (*Lewis*), *App. Flo. Liv.*

Mr. Lewis kindly sent me specimens. I do not understand this variety with any clearness or certainty. At any rate, Mr. Lewis's plant will pass for *P. procumbens*, *Sibth.*, and supply us with a record in 4 for that species.

P. reptans, Linn.

Creeping Cinquefoil.

Dry banks, the edges of paths, lawns, pastures, roadside and grassy wastes, &c. *P.* Summer and Autumn. Native. Personal records in 1, 2, 3, 4, 5, 6, 7; second-hand records in 1, 2, 4, 5, 6, 7.

P. anserina, Linn.

Silver-weed Cinquefoil.

Wastes and the edges of paths and roads; under hedges; the banked-up sides of ditches, brickfields, poor pastures, &c. *P.* Spring to Autumn. Native. Ascends to 900 feet at Redmoor Lane. Personal records in 2, 3, 4, 6, 7; second-hand records in 1, 2, 4, 5, 6, 7.

I saw this in good fruit for the first time at Parkgate in 1873, on a dry parched gravelly bank on the coast. It can surely fruit, but seldom inland.

P. argentea, Linn.

Hoary Cinquefoil.

On dry roadside banks and the broken field-edges. *P.* June, July.

4. Banks of the Dee near Parkgate, July 1857; (*Higgins*), *Proc. Liv. L. and P. Soc.* xiii. p. 7. Ditto, June 1867; (*Gibson*), *Flo. Liv.* (Not observed since.) A single plant in 1860 and 1861 in Shrewsbury road, Cloughton; (*Webb*), *Ib.* On the dry short-grassed sandstone bank on the right side of the road from Heswell to Gayton: say 200 yards before reaching the latter, August 1866.

5. Railway banks near Chester; (*Robinson*), *App. Flo. Liv.* A more precise subsequent rendering is, "Between Dunham and Chester, about opposite Guilden Sutton." Requires confirmation.

COMARUM, Linn.

C. palustre, Linn.

Marsh Septfoil.

In pits, on mere margins, and in marshy spots and pools on mosses and peat-lands. *P.* Summer. Native. Does not ascend above about 300 feet. Personal records in 1, 2, 3, 6, 7; second-hand records in 1, 2, 3, 4, [5], 6.

As Grindon rightly remarks, this will grow right into the water of a Cheshire pit; not merely occupy its margin.

FRAGARIA, Linn.

F. vesca, Linn.

Wood Strawberry.

In woods, thickets, and on moist shady banks. *P.* Summer. Native. Personal records in 1, 2, 3, 6, 7; second-hand records in 1, 2, 4, 5, 6, 7.

Just around Tabley this is not very common.

F. elatior, Ehrh.*Hautboy Strawberry.*

Banks and roadsides. *P.* Early Summer. Casual, escaped from cultivation. Rare.

4. On both sides of the road from Spital Station to Clatterbridge, plentiful; (*F. P. Marrat*), *Flo. Liv.* It is added that this is probably an error for luxuriant *F. vesca*.

Other kinds of garden strawberries rooting as outcasts on roadsides are some recorded for "truly naturalised" hautboy. Any record of this rather difficult species should be attested by a thoroughly competent botanical observer; one who both can know the species, and moreover, when known, estimate its degree of naturalisation in the given spot; the former qualification not by any means presupposing the latter.

RUBUS,¹ Linn.**R. Idæus, Linn.***Raspberry Bramble.*

Heathy woods and thickets; on the mosses; and in cloughs and on bushy roadside banks in the upland districts. *P.* June, July. Native. Generally distributed.

1. A frequent plant through the northern portion of the Hundred, ranging from 600 to 1000 feet; In the south less common; it grows in the lane from Bottom-of-the-Oven to Forest Chapel; *Webb.* Near Disley.
2. Common; *Buxt. G.*, &c. Common in the Tabley district, *e.g.* Round Wood, Tabley and Pickmere Moss. The ternate-leaved plant grows in the willow-bed, Tabley Park.
3. Oakmere.
4. Wirral; (*Watson*), *Hall, Flo.* Parkgate. No stations are given in the Liverpool Floras, and the wording of the general statement renders it doubtful whether the plant is considered to be "frequent" in Wirral.
5. In the woods of Eaton Hall grounds; *Webb.* On Broxton Hill.
6. Near Nantwich; (*Gerarde*), *Ger.* p. 1091. Wybunbury Moss; About Audlem; *Webb.*
7. In fair quantity about Congleton; *Webb.* On Lower Peover Heath; plentiful on Rudheath a mile S.E. of the "Three Greyhounds;" in many other spots.

Too common a plant in Cheshire to need detailed stations; still, the unsatisfactory records regarding Wirral, joined to the fact that I give the distribution of all the fruticose section of *Rubus*, makes me enter more fully perhaps into this than is needful.

In the genus *Rubus* the whole enumeration proceeds on growing plants seen *in situ* by the author, and on specimens actually submitted to him: the only exceptions are a few records taken on trust from the observations of Messrs. Baker and Webb, with whose views on the diverse sub-species he is perfectly conversant from continual communication with those gentlemen. Among

[¹ The Rev. W. Moyle Rogers's notes respecting the nomenclature of the *Rubi* are inserted over his initials within square brackets.—ED.]

the older authorities Buxton is certainly the best rubiologist; where, therefore, from the accuracy of his notes and the known prevalence of any form in his neighbourhood, I have felt myself justified in following him, the information he supplies has been made use of. When reference is made in Professor Babington's "British Rubi" to the occurrence of a plant in Cheshire, such has been transcribed.

β. Leesii (*R. Leesii*, Bab.). [*R. idæus*, L., var. *obtusifolius*, Willd. W. M. R.]

5. In the open wood between the Aldford entrance to Eaton Hall grounds and the river bridge: it grows on right-hand side near the roadway, and under the shade of a Spanish chestnut-tree, 1873; *Newbould and Webb*.

R. suberectus, Anders.

Sub-erect Bramble.

In peaty or heathy woods, or in shaded places where the surroundings are of this character. P. June, July. Native. Generally distributed.

1. Seen several times in the Tame Valley north of Staleybridge; *Baker*. A rare form about Disley: Grows in the wood between the canal and the river over against the Print-works, below Furness Vale, in good quantity and fine condition; sparingly in the swampy wood at the head of the north branch of the stream that passes through Furness Vale; *Webb, sp.*
2. Wood near Carrington Moss; *Hunt, sp., fide C. C. Babington*. (Seems certainly either this or shade-grown *fissus*.) Near Dunham Farm in Dunham Park; *Hunt, sp., fide Babington*. (I believe correct: the *fissus* affinity is much more obscure in this case.)
4. In Eastham Wood in several places, but most of it about the centre, and I incline to think that a plant occurring in some plenty on the north escarpment of the Bidston Hill (Flaybrick quarry) is the same long exposed: no doubt the ground was at one time wooded, as *Convallaria*, &c., grew there; *Webb, sp.* I have submitted the Eastham Wood *R. suberectus* to Professor Babington, who names it *R. integrifolius*, var. *longibasis*; *Lewis*.
5. [Quoisley Mere; *A. H. Wolley Dod.*]
6. In two places in the lane by Wheel Green Farm (a mile and a half north of Woore); *Webb, sp.*

R. fissus, Ldl.¹

P. Summer. Native.

5. [Bulkeley Hill; *A. H. Wolley Dod.*]
6. Wybunbury Moss; *Webb, sp., and Thompson, sp.*
7. Rudheath, plentiful by the roadside a mile S.E. of the "Three Greyhounds."

On the damper heaths in Mid-Cheshire, where in the south of England *R. suberectus* would grow, this form occurs.

¹ [Owing to the loss of a sheet of MS. the localities for this Bramble in the earlier Hundreds cannot be given.]

R. plicatus, W. & N.*Plicate Bramble.*

On dryish heaths and the outer banks of mosses; occasionally by roadsides where the surroundings are ericetal. *P.* July, August. Native. Generally distributed.

1. In the field-lane descending from the new Stockport reservoir above Disley to Disley Church, sparingly; The S. and S.W. edge of Dane's Moss near Macclesfield; The Pexhill road out of Macclesfield, between "Brick Bank" and the turn to Great High Birch Farm; *Webb, sp.* Lindow Common, N.W. end, but less common than *R. fissus*.
2. Knutsford Racecourse, Sept. 1871; *Hunt, sp.* Hale Moss, 1870; *Hunt, sp.* (labelled *affinis*, *fide C. C. B.*). On the side of Tabley Hill sandpit; On Knutsford Heath; Moss Lane, Moore.
3. Fish Pool, Delamere; Roadside between Fish Pool and Abbey Arms, Delamere.
4. Thornton Hough road.
5. [Simmonds Lane; *A. H. Wolley Dod.*]
6. The north field-margin of Little Mere, near Marbury; *Webb.* Wybunbury Moss; Also on Blackwater Moss near Audlem; *Id., sp.*
7. On Rudheath by the roadside, 200 yards S.E. from the "Three Greyhounds."

[*Var. Bertramii (G. Braun).*

6. Thicket S.E. end of Wybunbury Moss; (*E. S. Marshall*), *J. of B.* 1896, p. 135.]

[R. nitidus, W. & N.]

P. Summer. Native.

1. Hedge-bank in lane near Ingersley Hall, near Macclesfield; (*C. Bailey*), *E. C. Rep.*, 1890, p. 285.
5. By windmill near Gallantry Bank; *A. H. Wolley Dod.*
6. Wybunbury Moss, in some plenty; (*E. S. Marshall*), *J. of B.* 1896, p. 135.]

**R. affinis, W. & N. [*R. Selmeri*, }
Lindeb. W. M. R. }**

Northern Bramble.

On heaths, on roadside wastes, in swampy thickets, and open woods in ericetal neighbourhoods. *P.* July, August. Native. Generally distributed.

1. Tolerably common, but not one of the most widespread forms: *e.g.* Bredbury Green; Near Norbury Hall; Waste ground of the old colliery close to High Lane Station; The road from Broken Cross near Macclesfield to Pexhill; The lane ascending from Bottom-of-the-Oven to Forest Chapel; *Webb.* Between Stockport and Mottram; Near Macclesfield.
2. Dunham Park, Sept. 1870; Lane near "Bleeding Wolf," Ashley; Tabley Hill Lane, Sept. 1871; Narrow lane near Carrington.

- ton Moss; 1870; *Hunt, sp.* Walton, August 31, 1871 (as *R. calvatus*); *Hunt, sp.* But note that another specimen from the same spot and with the same date is good *calvatus*. Hale Moss near Bowdon (*G. E. Hunt*); and Knutsford Moor; *Bab. Rubi*, p. 73. Common about Tabley: e.g. notably fine clumps, 20 feet across, in the meadow just south of the Tower by Tabley Lake; Moss Lane, Moore.
3. Oakmere; *Hunt, sp.* Overton Hill; (*Robinson, sp.*), *Hb. Hunt.* Lane by Langley Covert, Ashton Hey; Delamere Station, N.; Near Budworth Mere; Oulton Mill; Bunbury, N.; Lower Bunbury; Bunbury Heath plantation.
 4. Common through Wirral; *Webb.* Near Heswell and at Parkgate and Neston; Near a quarry between Eastham Hotel and Bromborough Park wall; Bromborough Station, W.
 5. Large wood on right-hand side of the lane to Carden from the Farndon road, a mile west of Broxton Station, abundant: not common at all hereabouts; *Webb.* A closely-felted form in the lane-road from Hampton Toll-gate towards Broxton, approaching the first farmhouse; *Webb.* Eaton Hall grounds, Aldford; Waverton Quarry; Higher Burwardsley. [Common, Edge Green, &c.; *A. H. Wolley Dod.*]
 6. Haslington; Common in hedges, Wrenbury Frith; Ganton's Bank; very plentiful about the outskirts of Little Mere, near Marbury; Not uncommon in the Audlem neighbourhood; *Webb.*
 7. The roadside hedges north and east of Congleton; *Webb.* Back Lane, Lower Peover, and Rudheath; Some smaller forms, which are, I suppose, *lentiginosus* of Lees, by the road 100 yards north of "Three Greyhounds:" a prevalent form in the northern portion of this Hundred.

R. Lindleyanus, Lees.*Lindley's Bramble.*

In hedges, and more rarely in thickets and in open woods. P. July, August (or later). Native. Generally distributed.

1. Frequent in the Hundred, but generally a plant of the medium and lower levels: Bredbury Green; Near Woodford "New Hall;" The road east from Poynton Station; Entering Broken Cross from Macclesfield; *Webb.* Millbrook Great Wood; and Staleybridge Brushes; *Baker.*
2. Hedges near Hale Moss; *G. E. Hunt.* (See *Bab. Rubi.*) Bowdon; Thicket by River Bollin beyond Butts Clough; Dunham Park; Ashley; Lane near Carrington Moss; *Hunt, sps.* Knutsford; *Bab. Rubi*, p. 80. Very common: e.g. The Lane from Sudlow Lodge; Tabley Garden Wood.
3. Hares Lane, Frodsham; Lane from Helsby Station up the hill; Beech Moss, S.E. of Norley; Between Abbey Arms, Delamere, and Fish Pool; Lane by Langley Covert, Ashton Hey; Tarporley; By Budworth Mere; Near Toll-gate, Beeston Castle Station.
4. Between Eastham and Rock Ferry; *Hunt, sp.* Frequent

through Wirral; *Webb*. Heswell Hills; Near Parkgate; Near Raby Mill.

5. The lane-road from Hampton Toll-gate towards Broxton; The road from Barnhill Bank to Broxton Hall; *Webb*. Milton Green. [Apparently common: Edge Green; Lane by Edge Farm; Roadside east of Bickerton Hills; *A. H. Wolley Dod*.]
6. Haslington to Wrenbury, scarce; Common in the hedges of Wrenbury Frith; The outskirts (on the north side) of Little Mere, near Marbury; Not scarce about Audlem; *Webb*.
7. Common about Congleton; *Webb*. Lower Peover, common.

R. rhamnifolius*, *W. & N.

Buckthorn-leaved Bramble.

On wastes bordering roads, and in the adjoining hedges; on banks, and in open woods. *P.* July, early August. Native. Generally distributed.

1. Rare: I only saw it in the descent from Jenkin Chapel, near-ing Goyts Bridge; *Webb*, *sp.*
2. Blackhill, Bexton, Sept. 1871; *Hunt*, *sp.* Near Dunham Town, Sept. 7, 1871; *Id.* (Called "subglabrous *R. thyrsoidens*" by Babington: it is the form which I term "felted *rhamnifolius*," a connecting link with *R. incurvatus*.) Quite local: "For a few yards in Tabley Hill Lane, in the hedge fifty yards on the Knutsford side of the sandpit;" seen two or three times in this district, but I cannot call to mind where: my record published in *J. of B.* applies to a dubious allied form. (See *l.c.* vii. p. 355.)
3. Mouldsworth Station, N.; Hedge between Abbey Arms and Delamere Station; Between Oulton Mill and foot-walk to Cote Brook; Bunbury, N.; Lower Bunbury; Bunbury Heath plantation.
4. The rocky lane by Bidston pleasure-grounds; The edge of the fir-wood near the Toll-gate on the Upton road; In Eastham Wood; and by roadsides about Raby; West of Bromborough Station; Willaston, &c.; being more general in Wirral than I have seen it elsewhere in the county; *Webb*.
5. The road from Barnhill Bank to Broxton Hall; Near "Round House" in the lane-road from Hampton Toll-gate to Broxton; *Webb*. Waverton Quarry; Higher Burwardsley. [Between Duckington and Bickerton Hill; Between Edge Park and Tilston; *A. H. Wolley Dod*.]
6. The Whitchurch to Tarporley high-road, from the county boundary to the canal bridge: common, and probably extends farther north; Wirswall; Seen twice about Audlem: localities not noted, but it was the thickly-felted form; *Webb*. [Wybunbury Road, Nantwich; *A. H. Wolley Dod*.]
7. The lanes about Newbold Astbury, but not frequent, and not observed north of Congleton; *Webb*. Peover Back Lane, near the Brook; and again where the four lanes

meet at Plumbley Moor, a short way (say fifty yards) along the one that leads to Lower Peover, near *Rosa scabriuscula*; A bush on Rudheath, Goosetrey side.

R. rhamnifolius, true and typical, I have not noticed nearer my centre than Lower Peover; but in Tabley Hill Lane an allied bramble is well represented, with a soft and deep downy under-clothing to its leaves, which I suppose must, for the present, be classed under this name, and which Mr. Bloxam named *in situ* "*cordifolius*." This form seems to stretch *rhamnifolius* in the direction of *incurvatus*; indeed, selected specimens of the plant might be passed over as this sub-species. It also runs near the obscure *villicaulis* of Cheshire. When this plant grows in woods, the prickles, both on stem and panicle, become weak, short, and slender, and the plant seems more macrophyllian.

R. discolor, *W. & N.* [*R. rusticanus*, } *Southern Bramble.*
Merc. W. M. R.]

In hedges, thickets, and on wastes. *P.* July, August. Native. Generally distributed.

1. Not seen in the Staleybridge neighbourhood; *Baker*. Only seen in one locality, namely, by the canal bridge between New Mills and Furness Vale; *Webb*. Near Macclesfield, general; Beginning of high bushy bank rising up the second hill between Wimslow and Styal.
2. New Bridge Hollow; *Hunt*, *sp.*, *fide Babington*. Bowdon; (*Hunt*), *Bab. Rubi*, p. 107. Quite local: *e.g.* Tanyard, Higher Tabley; and by the fifteenth milestone from Manchester in Watling Street at Tabley; More abundant towards Lymm, Carrington, Thelwall, and the north of the Hundred; Where the railways cross the Mersey south of Warrington.
3. Common and general: *e.g.* Weaverham; Tarvin; Tarporley; Frodsham; Norley Hall; Furmy Lane, Great Barrow; Bunbury, N.
4. Common in Wirral in no doubt two or three of the named Continental forms; *Webb*. The prevalent bramble: Eastham; Hoylake; Wallasey; Moston; Bromborough Station, &c.
5. The bramble of Stretton and the Broxton neighbourhood generally; *Webb*. Chester; (*Hunt*), *Bab. Rubi*, p. 107. Lea Hall Farm, Aldford; Waverton Quarry; Tattenhall, N.W.; Common about Chester.
6. Crewe to Winterley; The bramble out of Crewe, on the Nantwich road; Less frequent about Audlem; Frequent about Ganton's Bank; Wirswall; *Webb*.
7. Scarce about Mow Cop and Congleton, falling to No. 7 of my list of comparative frequency; *Webb*. Still local in the north of this Hundred, but occurs at Lower Peover; Plentiful near Byley, where the forms of this sub-species are larger and more like the *discolor* of South England in aspect; Peover Back Lane.

R. vestitus, *Weih.* [*R. leucostachys*, }
Schleich. W. M. R.] } Downy Bramble.

By roadsides, more commonly on the wastes than in the hedges; about the borders of woods, the edges and refuse heaps of quarries, &c. *P.* Late July, August. Native. Generally distributed.

1. Not uncommon N. and E. of Staleybridge; *Baker*. Seen commonly through the Hundred, ascending to 1100 feet above Whaley: the highest bramble in the Shutlings Low district; *Webb*. Observed by the roadside between Stockport and Mottram.
2. Abundant in and about Cotterill Clough; *Bux. G. and Hunt, sp.* New Bridge Hollow; Dunham Park; *Hunt, sp.* (called "*R. villicaulis*"). General: Tabley Hill Lane.
3. Cross-roads south of Crabtree Green; Brown Hill, between Eaton and Oulton Mill; Between Lower Bunbury and Bunbury Heath; Roadside, Peckforton, N.
4. By the roadside between Willaston and Parkgate, and in various lanes in that part of Wirral; Farther south it grows in the lane between Haddon Hall and Barton: I do not know it in North Wirral; *Webb*. Just below Heswell Hills, in a quarry near Heswell.
5. [Edge Green, &c., rather common; *A. H. Wolley Dod.*]
6. Between Haslington and Winterley; Begins to be very common about a mile out of Crewe on the Nantwich road; Common about Audlem; On the north outskirts of Little Mere, near Marbury; *Webb*.
7. Common about Mow Cop and Congleton; *Webb*. Back Lane, Lower Peover; Common in the northern part of this Hundred.

R. calvatus, *Bloxam.* Smooth Bramble.

On rough overgrown wastes, sloping banks, and the outskirts of woods; often in isolated clumps in the adjoining open. *P.* July, August. Native. Rare.

1. At the bottom of a rough lane that leads from the canal to a hand-bridge over the Goyt, between New Mills and Furness Vale: characteristic; *Webb, sp.*
2. Abundant close to the footpath on the right side of the road to Yew Trees, Ashley, October 1869; *Hunt, sp., fide Babington*. Walton, September 31, 1871; *Hunt, sp.* A single bush about fifty yards on the Knutsford side of Tabley Hill sandpit, discovered by the Rev. A. Bloxam; A good many bushes growing together on Buckley's Farm, Marston, at the edge of Marbury Woods, near the canal; Near a pit-corner on Tayler's Farm; Moss Lane, Moore: a single bush.

R. ramosus, *Bloxam.* [Probably *R. mercicus*, *Bagnall. W. M. R.*]

In hedges and on the outskirts of heaths. *P.* July to September. Native. Rare.

2. Tabley Hill Lane, six or seven bushes: seen *in situ* by Rev. A. Bloxam; Plumbley Lane towards Arley.
7. Fairly abundant in a hedge which joins a pathway at Lower Peover Heath Green.

R. carpinifolius, *W. & N.* [Probably *R. pulcherrimus*, *Neum.*, *W. M. R.*] } Hornbeam-leaved
Bramble.

In hedges. *P.* July to September. Native. Rare.

2. Bowdon; (*T. Coward*), *Bab. Rubi*, p. 140. In a hedge which meets the turnpike-road between Grange Farm and the "Smoker" Inn, Plumbley; Round Wood, Tabley.
4. Gayton, close to the Hall.
5. [Captain A. H. Wolley Dod reports *R. pulcherrimus*, *Neum.*, as "common" near Malpas Station; Edge Lower Wood; Edge Green (typical); Near Moxton Old Hall; Hobb Hill, Tilston.]

R. villicaulis, *W. & N.* [Probably } *Pilose-stemmed Bramble.*
R. pyramidalis, *Kalt. W. M. R.* }

On wastes by roadsides. *P.* July to September. Native. Generally distributed.

1. In two places in Etherow Valley, near Tintwistle; *Baker*. In the field-lane descending from the new Stockport Reservoir above Disley to Disley Church: not very satisfactory; Sparingly by side of the lane between Bottom-of-the-Oven and Forest Chapel; *Webb*.
7. Roadside hedge between Buglawton Hill and the canal bridge northwards, sparingly; and more plentifully along the lane from the above-named bridge to the high-road under Cloud Hill Plantation; *Webb, sp.* In a small waste which retreats from the road, left-hand side towards Rudheath, after passing Lower Peover Heath.

R. derasus, *Müll.* } *Shorn Bramble.*

Hedges, hedge-banks, and on the outskirts of woods. *P.* Native. Rare.

2. Left side of lane near Carrington Moss, October '70; *Hunt, fide Babington*: (labelled as *R. villicaulis*). In a hedge running N.E. in the first large field you enter after passing Mr. Swinton Barber's farmyard from the Northwich road, Tabley.
7. Hedge of the road between Bradshaw Bridge and Wash Lane, near Rudheath, on the Lower Peover side.

[Uncertain. The true *R. derasus*, *L. & M.*, is held by Dr. Focke (and no doubt rightly) to be a form of *R. foliosus*, *W. & N.* It is, therefore widely separated from *R. villicaulis* and (though in a less marked degree) from *R. pyramidalis*, *Kalt. W. M. R.*]

R. Warrenii, *Bloxam.* } *Warren's Bramble.*

In hedges and by roadsides. *P.* Native. Generally distributed.

1. Alongside of the supporting wall under the plantation passed

on left-hand side in following the field footway from Bredbury Green towards Stockport *via* Bredbury Hall; *Webb, sp.* Near Lindow Common; Roadside between Stockport and Mottram.

2. Hedge near the Racecourse, Knutsford, 1871; also Black Hill, Tabley, 1871; *Hunt, sp.* (named *R. adscitus* by C. C. B.). Dunham Park, opposite to *R. fissus*, August and September 1871; *Hunt, sp.* ("very near to true *villicaulis*," C. C. B.). Very general: *e.g.* hedges in Tabley Lane, near Knutsford.

[A very doubtful plant. Probably either a local form or hybrid. All the dried pieces that I have seen were too imperfect for positive determination. *W. M. R.*]

R. macrophyllus, Weihe.

Great-leaved Bramble.

2. Dunham Park near Dunham Town, 1870 and 1871, September; *Hunt, sp.* (labelled "*macrophyllus*, type, but exceedingly glabrous; C. C. B."). Knutsford; *Bab. Rubi*, p. 157. This is a handsome form, which I am not familiar with; neither have I seen before any specimens of what Prof. Babington considers true *macrophyllus*. I have no reason, consequently, to alter the above naming, which, though I have seen Mr. Hunt's specimens, must rest on the Professor's authority.

[The true *R. macrophyllus, W. & N.*, seems scarce in Britain, and has been little known here. The "type" specimen figured in *E. B. Suppl.* t. 2625, and represented in the British Museum by specimens from Sowerby's herbarium, are my *var. subinermis* of *R. pubescens*—a widely spread South of England form, which no doubt goes off from the true *R. pubescens, Weihe*, towards *R. macrophyllus, W. & N. W. M. R.*]

R. Schlechtendalii, W. & N.

Schlechtendal's Bramble.

In dense woods and in high hedges on their outskirts. *P.* June, July. Native. Rare.

2. Wood beyond Ashley Model Farm; *Hunt, fide Babington*. This naming I repeat on the Professor's authority, but do not endorse. The plant seems to me untypical shade-grown *Borreri*; but I do not speak with certitude. [Evidently doubtful. *W. M. R.*]

R. glabratus, Bab.

Native.

I believe from the Hunt Herbarium that Prof. Babington would class here rather than with *umbrosus* that very common and generally diffused roadside Cestrian bramble which bears the last name in this Flora. [Evidently doubtful. *R. glabratus, Bab.*, is my *R. nemoralis, P. J. Muell, β. glabratus, Bab. W. M. R.*]

R. amplificatus, Lees.

P. July to September. Native. Generally distributed.

1. Between "Waterside" and Otterspool Bridge, near Bredbury Green, where a lane branches to the left from the road,

east from Poynton Station: this form approaches *amplifolius* of Lees, but has *in situ* a discoloric aspect; *Webb, sp.*

2. In a small square wood, marked but not named on the Ordnance Map, between Tabley Round Wood and Four Lane End: not typical, but I think must go here.

R. umbrosus, Arrh. [In most cases probably *R. pulcherrimus*, *Neum.*, or *R. Lindebergii*, *P. J. Muell. W. M. R.*] *Common Bramble.*

In open woods, in hedges, and on roadside wastes and banks or cops.
P. July, August. Native. Generally distributed.

1. Common N. and E. of Staleybridge; *Baker*. Fairly distributed, but "common" is too wide a term to apply to the Hundred generally. The following are a few scattered and definite stations:—The field-lane descending from the new Stockport reservoir above Disley to Disley Church; Dan Bank, near Rose Hill Station; The north side of the large plantation on Whaley Moor (1100 ft.); Hedges by the field route from Dark Lane to Underbank Farm, off the Pexhill road, S.W. of Macclesfield; The lane from Bottom-of-the-Oven to Forest Chapel; *Webb*.
2. From numerous localities in *Herb. Hunt*: e.g. Near Cotterill Wood; Lane beyond the "Bleeding Wolf," Ashley; Narrow lane near Carrington Moss, but labelled very diversely under *glabratus*, *mucronulatus*, *ramnifolius*, &c. A very prevalent bramble: e.g. Tabley Hill Lane, but may be met with in every lane margin about here; Road between Ashley Station and Cotterill.
3. Spurstow; A mile S.E. of Alvanley; Delamere Station to Fish Pool; Near Oulton Mill.
4. Common in Wirral; *Webb, sps.* Seems general in this Hundred; Just above the river, near Bromborough Park Wall, towards Eastham Hotel; Raby, &c. [Hedge on heath, Oxtun; (*Lewis*), *R. C. Rep.* 1883, p. 10.]
5. Large wood on right-hand side of the lane to Carden from the Farndon road, a mile west of Broxton Station; *Webb*. Dee-bank N.W. of Huntington Hall, above Chester; Eaton Hall grounds; Aldford; Waverton Quarry.
6. Near Shavington, south of Crewe; Common about Audlem: both the ordinary form and the stiff neat form that obtains in Wirral; *Webb*.
7. Near High Bent Farm by the Bosley and Biddulph road, below Cloud Hill Plantation; *Webb*. Byley; Lower Peover; very general.

R. amphichloros, Müll.

Müller's Bramble.

P. Native.

2. New Bridge Hollow, Bowdon; Wood at Ashley Heath; Wood near the Priory, Bowdon; *Hunt, sps.*
4. The lane-side nearing Irby windmill from Frankby, and elsewhere in that neighbourhood; *Webb*.

This name is adopted at the suggestion of Professor Babington's label for the New Bridge plant cited above, which seems to me an intermediate form connecting *umbrosus* and *mucronulatus*, the plant being not sufficiently setose to satisfy the sectional characters of the latter, while in its general aspect it closely resembles some states of the former. In "British Rubi" the name is only used by the Professor as a synonym of *R. mucronulatus*. [Quite uncertain. *W. M. R.*]

R. mucronulatus, *Bor.* [*R. mucronatus*, } *Mucronate Bramble.*
Blox., W. M. R.]

On roadside wastes and in woods. *P.* July, August. Native. Generally distributed.

2. Wood beyond Model Farm, Ashley, September 1870; *Hunt, sp.*
5. [Duckington Dingle; Horton; *A. H. Wolley Dod.*]
7. The road along the west side of Congleton Edge, 1874; *Webb.* At Mow Cop; Also about a mile or so from Congleton Station by the side of the road to Biddulph.

R. Borreri, *Bell-Salt.* *Borreri's Bramble.*

On heaths, and on the hedge- and ditch-banks; in the woods and on wastes where the surroundings are ericetal. *P.* July, August. Native. Generally distributed.

1. The commonest species through both valleys in the Staley-bridge neighbourhood, ascending to 400 yards in the Etherow Dale, near Woodhead; *Baker.* Generally dispersed throughout the Hundred: In the south portion it may be found by the turn of the road at "Platting," between Forest Chapel and Tor Gate; In a plantation by the road to Crag Hall from the Buxton and Congleton road, &c.; *Webb.* Common by the road between Stockport and Mottram.
2. Ashley; Thicket in Dunham Park; Lane between Chester road and Rostherne; *Hunt, sp.* Very general: *e.g.* Tabley Hill Lane, where it loses in some places its procumbent habit and grows high up into the hedge; and the Round Wood, Tabley Rinks.
4. In the fir-woods between Bidston and Claughton; On the Bidston Heath; and in Eastham Wood; *Webb, sp.*
6. The borders of Wybunbury Moss; By the roadside nearing Crewe from Wybunbury; On a hedge-and-ditch bank opposite to the house next to Bickley School; About Audlem I only saw it across the border near Woore; *Webb.*
7. Congleton; *Bab. Rubi*, p. 166. In the lane a little below High Bent Farm, which stands off the Bosley and Biddulph road under Cloud Hill Plantation; *Webb.* Rudheath; Lower Peover Heath; Occurs generally in the north of this Hundred.

[All the above are probably luxuriant *R. Sprengelii*, *Weihe.*—*W. M. R.*]

R. Sprengelii, Weihe.*Sprengel's Bramble.*Stations as in *R. Borreri*.

1. Bredbury Wood; (*Bloxam*), *Bab. Rubi*, p. 166.
2. Bowdon; (*Hunt*), *Bab. Rubi*, *ib*.
3. A mile S.E. of Alvanley; Lane by Langley Covert, Aston Key; Near the Temperance Hall, Beech Moss, Norley; Flaxmere, S.E.; Between Abbey Arms, Delamere, and Fish Pool; Budworth Common.
5. Higher Burwardsley. [About Bickerton Hill among birches at S.W. corner, and in lane to Bickerton Church; *A. H. Wolley Dod*.]
7. Congleton; *Bab. Rubi*.

All the "*Sprengelii*" submitted to Professor Babington is so named, none of it "*Borreri*." I own I cannot distinguish them apart.

R. hystrix, Weihe.*Hedgehog Bramble.*In hedges and rough overgrown wastes. *P.* July, August. Native.

2. Rock Savage; (*Robinson, sp.*), *Hunt, Hb.*
3. Frodsham; *Robinson, sp.* (*Qy.* Same locality as above?)

[This nomenclature is altogether uncertain. Few names seem to have been more variously applied—on the Continent as in England—than this one. The only Cheshire specimens that I have seen were from Eastham (*J. Harbord Lewis, Hb. Groves*, and *J. A. Wheldon*), representing what seems to me a very strong form. *W. M. R.*]

The specimens are good and exactly typical, and form our only Cheshire record.

R. rosaceus, Weihe.*Rose-flowered Bramble.*In open woods and dense-grown hedge-bottoms. *P.* July, August. Native. Generally distributed.

2. Near Clay House Farm; Round Wood, very fine; and Tabley Garden Wood, sparingly.
4. Eastham, 1871; *Hunt, sp.* (This is my Eastham plant: It is called "*R. rudis* var., with very thin leaves, *C. C. B.*," which I am quite at a loss to understand.) In a fir plantation alongside Egerton road, Claughton, more particularly by the entrance to Mr. Jackson's farmstead; (*Webb, Flo. Liv.* In large quantity and most luxuriant and handsome in Eastham Wood; *Webb*. A single bush close to Bromborough Park wall on the river-edge and the Eastham Hotel side.
5. [Bickerton Hill; Edge Park; rather frequent in both places: "between type and *hystrix*" (*W. M. R.*); *A. H. Wolley Dod*.]

The above plant is neither *scaber* nor *hystrix*, though evidently allied to both; hence I accept the name *rosaceus*, though I know little what that means. [Doubtful. *W. M. R.*]

[*Var. silvestris, R. P. Murray.*

4. Wood at Eastham; (*J. A. Wheldon, E. C. Rep.* 1894, p. 444.]

R. atrorubens, Wirt.

6. In the lane and hedges about College Fields Farm, near Buerton, copiously; *Webb, sp.*

[This is probably *R. odornatus*, *P. J. Muell.*, a widely-spread, well-marked bramble. I have seen it from two other Cheshire localities, Bickerton Hill and Gallantry Bower, collected by *A. H. Wolley Dod.*—*W. M. R.*]

• **R. rudis, Weihe.** [*R. echinatus*, *Lindl. W. M. R.*] *Rough Bramble.*

In hedges. *P.* July, August. Native. Generally distributed.

2. Seems confined to the lane running S.W. from Black Hill Farm, Bexton, and a few adjoining fields: grows, however, plentifully there in some places, and is exactly typical.

5. Hedge nearly opposite to the turn to Bradley from the Whitchurch to Malpas road; *Webb, sp.* Roadside hedge by Copper-mine, Gallantry Bank, Bickerton. [Hedge near Lowercross; *A. H. Wolley Dod.*]

6. Gathered in the Audlem neighbourhood, the exact locality mislaid; *Webb, sp.*

[No doubt this is our common *R. echinatus*, *Lindl.*, and distinct from *R. rudis*, *Weihe.*—*W. M. R.*]

R. Reuteri, Mercier.

Reuter's Bramble.

In dense hedges and ditch-sides. Around pits. Native.

2. In the lane going S.W. from Black Hill Farm, Bexton; and on Tabley Grange Farm: grows freely in both stations.

This is a large coarse *radulesque* form, with much broader leaflets than type *radula*, and in the same relation to it as *Babingtonii* to type *scaber*. The name is merely provisional. Likely enough *R. saxicolus*, *Müll.*, is more correct. [Quite uncertain. *W. M. R.*]

R. Radula, Weihe. [Nomenclature un- } *File-stemmed Bramble.*
certain. Perhaps right. *W. M. R.* }

On the border wastes of roads, on heaths, in the hedges, and in open woods. *P.* July, August. Native. Generally distributed.

1. Seen several times in the Etherow and the Tame valleys; *Baker.* Not common: The lane to Wibbersley Hall out of the upper road between Disley and High Lane (rather poor); In a capital bramble-wood between the canal and the river, over against the Printworks between Furness Vale ("Furnace" of the Ordnance Map), in plenty; The road between High Ash and Bottom-of-the-Oven, near to Forest Chapel; *Webb, sps.*

2. Lane side towards Arley, in Plumbley; Near Trout Hall, Plumbley.

3. Between Abbey Arms, Delamere, and Fish Pool; Mouldsworth Station, N.

5. In roadside hedge between High Birch, near Christleton, and

the turnpike road east from Chester; *Webb, sp.* [Edge Green; Thicket near Aldford; *A. H. Wolley Dod.*]

7. Rudheath; in company with *R. fissus* in an exposed heathy spot: typical here, which in Cheshire it seldom is.

R. Koehleri, Weihe. [Nomenclature uncertain. Perhaps right. *W. M. R.*] *Koehler's Bramble.*

In hedges, and upon the border-wastes between the roadway and hedges. *P.* July, August. Native. Generally distributed.

1. [Rocks at foot of White Nancy, Bollington, near Macclesfield; (*Charles Bailey*), *E. C. Rep.*, 1890, p. 293.]
2. Knutsford; *Bab. Rubi*, p. 210. On Flitto' Gate Farm, Tabley, occupies thirty yards or so of a hedge: quite distinct, and I have seen it nowhere else hereabout.
3. Overton Hills, June 1868 (*Robinson, sp.*), (called *R. Radula*), *Hunt, Hb.* (Same as the Flitto' Gate plant. Nothing to do with *R. Radula*.) [Hedge-bank on the roadside between Delamere and Mouldsworth; (*Charles Bailey*), *E. C. Rep.*, 1890, p. 293.]
5. Hedge-bottoms, &c., near the "Red Lion" public-house, north-east of Gallanty Bank, Bickerton; Higher Burwardsley.
6. The lane by Whitaker Green from N.E. of Audlem towards Doddington Park, extending over something like a quarter of a mile; *Webb, sp.*

[*Var. pallidus, Bab.* The true *R. pallidus, Weihe (v. infra).* *W. M. R.*]

5. Very common, Edge Green; Bickerton Hill; *A. H. Wolley Dod.*]

R. infestus, Weihe. [Probably *R. setulosus*, } *Hostile Bramble.*
Rogers. W. M. R.]

On rough wastes. *P.* Native.

1. Near to the Gritstone quarries by Whaley Reservoir: frequent thereabouts; *Webb, sp.*
2. Lane beyond "Bleeding Wolf," Ashley; *Hunt, sp.* (This is labelled as a variety of *R. Lindleyanus*.) Grassy Lane, Plumbley; *Hunt, sp.* (labelled *R. calvatus*; but I consider the plant weak *infestus*). One or two bushes in Tabley Hill Lane; A bush growing by itself near pits in a lane which crosses the railway E. of Black Hill Farm, Bexton.
5. [Bickerton Hill; *A. H. Wolley Dod.* (As *R. setulosus*.)]
7. Roadside between Bradshaw Brook and Rudheath.

R. pallidus, Weihe. *Wood Bramble.*

Forms frequently a large proportion of the undergrowth of woods; also in hedges, on rough wastes, &c. *P.* July, August. Native. Generally distributed.

1. Common in the Tame and Etherow Vales; *Baker*. Common throughout the Hundred: indeed, on the whole, it is the

commonest bramble; *Webb*. Bradbury (Bredbury) Wood; (*Bloxam*), *Bab. Rubi*, p. 211. Between Stockport and Mottram.

2. Numerous specimens in *Hunt, Herb.*—e.g. Hedges by Hale Moss; Lane side, Dunham Park; In Cotterill Wood; Near Carrington, &c.: (*Note*.—The plants from the two last-named stations are called *R. Lejeunii*, by Professor Babington); Bowdon; (*G. E. Hunt*), *Bab. Rubi*. Very general: e.g. Tabley Garden Wood and Tabley Hill Lane.
3. Beeston Castle; (*Bell-Salter*), *Bab. Rubi*. Frodsham, towards Overton Church; Lane by Langley Covert, Aston Hey; Delamere Station, north; Bunbury, north; Lower Bunbury; Bunbury Heath.
4. Edges of fir woods at Claughton and Bidston, and in the plantation bounding Birkenhead Park, on the north side; The roadside hedges inland of Bromborough Station; *Webb*. By a rough roadside, leading along the riverside from Eastham Hotel to Bromborough Park Wall. [*Wood, Eastham*; (*Lomax*), *R. C. Rep.*, 1884-86, p. 93.]
5. Between Agden and Chedlow Hall, on the Whitchurch to Malpas road; Near to Hampton Toll-gate, east of Malpas Station; *Webb*. Eaton Hall Woods, near Aldford. [Near Gallantry Bank; *A. H. Wolley Dod*.]
6. Hedges, Crewe to Winterley, &c.; and common in the Audlem district; *Webb*.
7. Common about Mow Cop and Congleton; *Webb*. Lower Peover; Rudheath, &c.: general in this district.

[Probably all the above records relate to *R. palidus*, *Bab. (non Weihe)*, a very common bramble in the North of England. *W. M. R.*]

***R. fusco-ater*, Weihe.** [Nomenclature quite uncertain. *W. M. R.*]

It may be noted that *Bab. Man.* identifies with my *dumetorum* β . *pilosus* the var. *Briggsii* of this sub-species; therefore, according to Prof. Babington, my records for *pilosus* (*q.v.*) may perhaps stand as occurrences of Babingtonian *fusco-ater* in Cheshire.

***R. diversifolius*, Lindl.**

Hedge Bramble.

In hedges, on roadside wastes, and in woods, thickets, and plantations. *P.* June to August. Native. Generally distributed.

1. In a quarry near Staleybridge; *Baker*. Not a bramble of the higher grounds, and consequently rare through the Hundred: Plentiful in the road east from Poynton Station; Between the S.W. entrance to Lyme Park and the Lodge to Shrigley Hall; The Pexhill road between Broken Cross and Pexhill; Hedge opposite to Henbury smithy, between Capesthorpe and Macclesfield; *Webb*. Disley; Near Stockport, on the Mottram road; Near Lindow Common; Bramhall; Handforth.
2. Ashley; Hedge near Downs, Bowdon; Hedge near Castle Mills; *Hunt, sps.* Wood beyond Model Farm, Ashley, Sept. 1870; Near Oldfield Schools, Bowdon; *Hunt, sp.*

(These two last are labelled *R. tenuiarmatus*, Lees *fid.* Babington, which name would put them under *R. Balfourianus*; but I have no doubt they belong here.) Sale; Baguley; Timperley; Altrincham; *Buxl. G.* Bowdon; (*Hunt*), *Bab. Rubi*, p. 226. The commonest bramble about Tabley, e.g. Tabley Garden Wood; Sutton and Aston; Norton Station; Moss Lane, Moore; Where the railways cross the Mersey south of Warrington; Ashley.

3. Frodsham, 1868; *Hunt*, *sp.* (the commonest bramble there). Mouldsworth; Dunham-on-the-Hill; Lane by Langley Covert, Aston Key; Delamere Station, N.; Cuddington; Oulton Mill; Spurstow, S.
4. Frequent in hedges, &c., in Wirral, e.g. In the hedges of the Upton road, on the Birkenhead side of Claughton village; The plantation opposite to the east gates of the Cemetery; In the hedges and on wastes in the lanes about Thurstaston, &c.; *Webb*. Not common in the middle and south of the Hundred; *Id.* Sealands road, Chester.
5. Hedge opposite to the road entry to the Malpas "Allotments;" By Round House, in the lane-road from Hampton Toll-gate towards Broxton: comparatively scarce in this Hundred, I fancy; *Webb*. Christleton; Waverton Quarry.
6. Between Gresty Green and Shavington, south of Crewe; Hedges between Crewe Green and Winterley; About Audlem: as much of it as of all the other brambles put together; *Webb*. Near Crewe Gate.
7. Common about Mow Cop and Astbury, and the various lanes of Newbold Astbury; *Webb*. Lower Peover, abundant.

***R. Lejeunii*, Weihe.** [Nomenclature quite uncertain. *W. M. R.*]

2. Bowdon; (*Hunt*), *Bab. Rubi*, p. 230. Rostherne; Dunham Park; *Hunt*, *sp.*

Lejeunii is suggested for plants from all three places by Prof. Babington; in the two former instances with some grain of doubt, in the last case more confidently, thus: "Is what we call *Lejeunii*; but foreign specimens do not accord well."

I should call all three shade-grown states of *pallidus*. This is certainly not Mr. Bloxam's *Lejeunii*, as it is not that of Continental authors.

***R. pilosus*, W. & N.**

Hairy Bramble.

In roadside hedges. *P.* Native.

1. In two places near Millbrook and Micklehurst; *Baker*, *sp.* The road between Rose Hill Station and Hazel Grove, about Bosden House and Poise House: the common hedge-row bramble thereabouts; *Webb*, *sp.* (*Note*.—Not distinct *pilosus*, but comes nearest to it.)
5. Field-hedge opposite to Agden Hall on the Whitechurch to Malpas road: not characteristic; *Webb*, *sp.*
6. Hedge by roadside at Crewe Green; *Webb*, *sp.*

H

R. humifusus, Weihe. [Quite uncertain. *W. M. R.*]

5. In *Bab. Rubi*, p. 242, "Beeston Castle, Ches. (Borr. !)" is given in the list of localities, and the following remark added in a footnote: "Dr. Bell-Salter thought that this plant, of which a specimen will be found in the Herb. Borr. at Kew, is the *R. apiculatus* of Weihe."

R. Balfourianus, Blox.*Balfour's Bramble.*

In open woods and hedges. *P.* End June, July. Native. Generally distributed.

2. Roadside half a mile beyond Hale Barns on the road to Castle Mills, October 1870 ("typical," according to Prof. Babington); *Hunt, sp.* Banks of Mere Mere, June 1868; Chester Road, Bowdon, July 1871; *Id.* Rostherne; (*Sidebotham in Bell-Salt. Herb.*), *Bab. Rubi*, p. 261. Turnpike roadside at intervals from the Yew-Tree, Tabley to Mere; Smoker Hill Farm, Plumbley; Abundant along the southern side of Smoker Wood; Some enormous bushes in and about the grassy interval between the Lennard and Smoker Wood just over the brook; Also in and about the hedges N.W. of Sudlow Wash Farm.
3. Furmy Lane, Great Barrow; Tarporley.
5. Near Plemstall Church: In the woods, Meadow Plantation, Eaton Hall Grounds: generally weak and untypical. [Sandpit at end of Overton Scar; *A. H. Wolley Dod.*]

R. corylifolius, Sm.*Hazel-leaved Bramble.**P.* Native.

2. Moss Lane, Moore.
3. Furmy Lane, Great Barrow; Beeston, plentiful.
4. Bromborough Station, W.; Blacon Point.
5. Above Lea Hall Farm, Aldford; Out of Guilden Sutton (*conjungens*).

I make no pretension to the above being an adequate list; moreover I cannot separate *sublustris* and *conjungens*.

[*Var. cyclophyllus, Lindeb.*

5. Near Horton Hall; *A. H. Wolley Dod.*]

The *corylifolius* form of my home district is certainly not *sublustris*, and I class it here; but whether *purpureus* might not be stretched to include it admits of doubt. I originally put it under that name at Mr. Bloxam's suggestion, who inspected the plant growing. There still remains about Tabley, *e.g.* in the Fountain Court, another *cæzio-corylifolius* form which is not dumetose, neither does it agree with any of the three described varieties of *corylifolius*. It comes nearest what Prof. Areschoug showed me as *R. degener* in a lane at Kilburn.

R. sublustris, Lees.*Lightish Bramble.**P.* July, August. Native.

1. Near Norbury Hall; *Webb, sp.* I have no other record for this or any other *corylifolius* segregate in the Hundred; *Webb, MSS.*

2. I have not noticed *sublustris*, to feel sure of it, in my home district.
3. Overton; (*Robinson, sp.*), *Hunt, Hb.*
4. I have not gathered real *sublustris* in Wirral, and it is rare on the Lancashire side; *Webb.*
5. By Bradley Bridge on the Whitchurch to Malpas road; A short distance along the lane-road from Hampton Toll-gate towards Broxton; *Webb, sps.*
7. Byley, near Middlewich, but sparsely.

R. conjungens, Bab.*Connecting Bramble.*In hedges and by pit and pond sides. *P.* Native.

2. Tabley Hill Lane by a roadside pond, 100 yards before the sandpit; Clay House Farm, hedges by the footpath leading down to the brook, &c. Local in my home district, and seldom much of it growing together.

R. purpureus, Bab. [*R. fasciculatus*,
P. J. Muell. W. M. R.]*Purple Bramble.*In hedges. *P.* July, August. Native.

3. Between Bridge Trafford and Dunham-on-the-Hill.
4. Opposite to Lang House, in Lang Lane, the Hill Houses, West Kirby; and in some of the field-hedges by the footway to Hoylake; *Webb, sp.* Gayton.
5. Henlake.
7. New Covert, Lower Peover.

R. althæifolius, Host.*Mallow-leaved Bramble.*In exposed hedges, often near the coast-line. *P.* June to August. Native. Local.

3. Frodsham; (*Robinson, sp.*), *Hunt, Hb.*, and *Bab. Rubi*, p. 279.
4. Plentiful by the roadside leaving Parkgate for the village of Neston.

[*R. althæifolius, Host.*, is doubtfully British. *W. M. R.*]**R. concinnus, Warren.***Neat Bramble.*

In hedges. Native.

1. Abundant in Tame Valley; *Baker, sp.* Common in the hedges about Disley, extending from Hazel Grove on the one hand to Whaley Bridge on the other; Bredbury Green; *Webb, sps.*
2. Hedges near Smoker Inn; Hedges opposite White Lodge.
4. Sealands road, Chester, about half-way to Blacon Point; Roadside, Thornton Grange.
7. Hedges near Trout Hall.

R. cæsius, Linn.*Dewberry Bramble.*On sandy ground near to the coast. *P.* June to August. Native. Generally distributed.

2. By the Mersey, where it is crossed by the railways S. of Warrington: plenty thereabouts.
3. Hedge about half-mile south from Spurstow.

4. The "Dewberry fields," between Hoylake and Hill Houses ; the form *tenuis*, I presume, but I trace it into a stout hedge-plant also growing thereabouts ; The same plant above the river-bank north of Gayton Cottage, towards Heswell Shore Heath ; Above a roadside cutting entering Heswell village from Thurstaston : this Mr. Bloxam calls *var. hispidus* ; Webb. New Ferry, August 1871 ; Hunt, *sp.* (Named *var. ulmifolius* by Professor Babington : I believe it is identical with a form of *cæsius* which grows about Thames Ditton ; I do not understand the above variety). Creeping on the ground in fields near the river on the West Kirby side of Hoylake plentifully ; Blacon Point road out of Chester.
5. Woods and bushy banks along the Dee for some miles above Chester ; On the Rood Eye, &c., at the base of the walls. [Very common in Malpas district ; A. H. Wolley Dod.]

[*Var. tenuis* (Bell-Salt.).

5. Lower Wych ; A. H. Wolley Dod.]

R. saxatilis, Linn.

Stone Bramble.

Mountainous moors, upon broken rocks, and by torrent-sides. *P.* Summer. Native. Rare.

Recorded by Grindon on Kinder Scout, a Derbyshire mountain, across the stream at Woodhead. Is nearly sure to occur on Cheshire ground, on the other side of the Etherow Valley.

R. Chamæmorus, Linn.

Cloudberry Bramble.

Mountainous moors. *P.* June, July. Native. Rare. Confined to montane Cheshire. Range 1500-1700 feet.

1. Grows in a large patch near "Whinberry Stones," on the Yorkshire side of the dividing lines of the counties, but a small patch has strayed over into Cheshire ground ; Again, in a large tract on a place called Hoarstone Edge, which lies, say, a mile due south of the above station towards Tintwistle : the station is more than a mile within the Cheshire boundary ; James Walker. 1873, *sp.* Mountains above Staley Wood ; B. G. Holme Moss ; Churchill Babington. (This moss is on the extreme county boundary, due north of Woodhead. Most of it seems out of Cheshire. Buxt. G. records one station just beyond our boundary at Greenfield. Gr. Flo. gives Kinder Scout and Rollick Stones, both in Derbyshire, and says, "Other moors near Woodhead," some of which are doubtless Cestrian. Mr. Bickham informs me that a friend of his gathered specimens seen by Mr. Bickham, near Taxal, in 1874.) Near the commencement of Mill Clough, say a quarter of a mile due east of the "Cat and Fiddle ;" A large bed of the plant in the valley next behind the "Cat and Fiddle ;" Also near the top of Shooters Clough, on the east side : Webb, *sp.*

The occurrence of this plant at our north-eastern extremity, where Cheshire, running out into a slender band between Lancashire and Derbyshire, just impinges a wavy frontier line of a few miles upon Yorkshire and ends, shows the intermediate character of a Flora which embraces *R. Chamæmorus* on one side and *Onopordum acanthium* on the other.

[The following Rubi have been recorded from, or met with in, the county during the past few years. The arrangement follows the "London Catalogue," 9th edition:—

Group I.—Suberecti.

R. integrifolia, P. J. Muell.

5. Near the bog on Bickerton Hill; *A. H. Wolley Dod*.

Group II.—Rhamnifolii.

R. incurvatus, Bab.

2. Side of lane in the neighbourhood of Knutsford; (*Charles Bailey*), *E. C. Rep.*, 1889, p. 248. Passed by Dr. Focke.

R. argentatus, P. J. Muell.

5. Field near Malpas Station; *A. H. Wolley Dod*.

Group III.—Discolores.

R. thyrsoides, Wimm.

5. Stone Quarry, Edge Park ("not typical," *W. M. R.*); *A. H. Wolley Dod*.

Group V.—Egregii.

R. Gelertii, Frid., var. *criniger*, Linton.

5. Edge Park; (*A. H. Wolley Dod*), *W. M. R. in J. of B.*, 1894, p. 41.

R. anglosaxonicus, Gelert, var. *raduloides*, Rogers.

5. Roadside, above Burwardsley; *A. H. Wolley Dod*.

Group VI.—Radulæ.

R. podophyllus, P. J. Muell.

Hedges near Romiley; (*J. Whitehead*), *E. F. Linton in J. of B.*, 1894, p. 24.

R. Newbouldii, Bab.

5. Rather frequent throughout the district from Bickerton Hill to the Wyches, e.g. Edge Green; Edge Park; Horton; Bickerton Hill; Lower Wych, &c.; *A. H. Wolley Dod*.

R. Babingtonii, Bell-Salt.

5. Bickerton Hill, frequent; *A. H. Wolley Dod*.

R. fuscus, W. & N., var. *macrostachys*, P. J. Muell.

5. Thicket near Tattenhall; Sandpit near Burwardsley; *A. H. Wolley Dod*.

Group VII.—*Koehleriani*.*R. adornatus*, P. J. Muell.

5. Roadside, Gallantry Bank; A. H. Wolley Dod.

Group IX.—*Cæsii*.*R. dumetorum*, W. & N., var. *diversifolius* (Ldl.).

5. Bulkeley Hill; Edge Green; A. H. Wolley Dod.]

GEUM, Linn.**G. urbanum**, Linn.

Common Avens.

The borders of woods, and in open woods, thickets, and plantations; on shady hedge and ditch banks, &c. P. Summer and Autumn. Native. Generally distributed. Personal records in 1, 2, 3, 4, 5, 6, 7; second-hand records in 1, 2, 3, 4, 5, 6.

G. intermedium, Ehrh.

Hybrid Avens.

Moist shady thickets and woods. P. Early Summer. Native. Rare.

2. Once by the brook from Vale Wood to Mobberley Church Meadows: not there now; R. Holland, 1873.

G. rivale, Linn.

Water Avens.

Sides of streams, often by mill-pools, and in moist woods, &c. P. Summer and Autumn. Native.

1. Frequent in Wems, a marshy place near Staley Hall; (*Bradbury*), B. G. Big Wood, between Mossley and Spring Grove; *Walker*. Abundant near Capesthorpe Mere; *Sidebotham MSS.* and *Gr. Flo.*
2. *Ashley*; *Gr. Flo.* Plentiful by the brook from Mobberley Church Meadows to Vale Wood; *Holland*. From Holford Mill to Nether Peover Mill, skirting the Peover Eye Brook at intervals: fine and plentiful.¹
3. *Delamere, Oakmere*; *Sidebotham*. Banks of a small brook between Rulor Hall and Ouston, only a few patches, with *Cardamine amara*; *Brown*. Banks of Moors Brook, about half-way between Manley and Alvanley; *Brown*.
4. Meadows near Woodchurch and Frankby Mere; *H. E. Smith in Proc. Hist. Soc. i.* (1861). (Not taken up in *Flo. Liv.*, and Mr. Smith cannot supply any information. Requires confirmation.)
6. Canal near Marbury; *Jebb*.
7. Peover Mill-dam and thence to Holford: the brook being the boundary of the Bucklow and Northwich Hundreds.

ROSA, Linn.**R. spinosissima**, Linn.

Burnet-leaved Rose.

In the flats and valleys of the Sandhills, and on the adjoining sandy ground, occasionally also in hedges a few miles inland. Very rare and doubtfully wild away from the coast. P. *Sh.* May, June.

1. The wooded bank rising from the private road between Castage and Err Wood Hall: I doubt it being indigenous, as neighbouring shrubs are certainly planted; *Webb, sp.*

¹ "Juxta rivulo (*sic*) Peover High dicto copiosè inveni;" *Old Herbal*.

4. I do not remember it farther inland than the hedge in the Upton road cutting over Bidston Hill, in North Wirral; and in the hedge after the second turn in the lane from the main road south of Ness to Haddon Hall, in South Wirral: I am not aware of its occurrence in East Wirral; *Webb*. I have seen this at New Brighton, Wallasey, Hoylake, a mile and a half north of Parkgate, &c., and the Liverpool Floras quote it as "very common" upon the Sandhills, and "occasionally" in hedges inland.

A common littoral Cheshire plant, completely covering the sandhills in many places.

***R. involuta* (Smith), Baker.**

British Rose.

In hedges in the neighbourhood of rocky heaths, or where the soil is sandy. *P. Sh.* June, July.

Var. Sabini, Baker (R. Sabini, Woods).

4. Abundant in a hedge at Liscard; (*Fisher*), *Proc. Liv. L. and P. Soc.* xiii. (1859), p. 6. A bush or two on a small heath near Bebbington Station; (*Webb and Fisher*), *ib.* xv. p. 11. (Still there, 1873.) Near Raby Mere; Eastham; (*Fisher*), *Flo. Liv.* Destroyed, I believe, through road alterations by the Toll-gate on the Upton Road: used to be very fine there; Scattered bushes of it in the hedges about Greasby, Frankby, and Irby are not uncommon; Before the hedges were cut (1872) there was a good deal between Raby Mere and Thornton Hough; The best locality I now know is in the tall hedge on right-hand side of the Hoylake to West Kirby road, not far from Hoylake Station: here it is luxuriant and plentiful; Sparingly in the lane from the shore to Barkwood House, north of Parkgate, near to the Lodge; *Webb, sps.* Is fairly frequent through North and Central Wirral; but as a rule not much of it in any one place; *Webb*.

Var. Doniana, Baker (R. Doniana, Woods).

4. A low hedge in the fifth field between Hoylake Station and the Hill Houses: not much of it, and the recent diversion of the footpath, so as to pass alongside this hedge, may lead to the destruction of the plant: I have known it here for some years, and as characteristic as I have ever seen it: I have not met with it anywhere else; *Webb, sp.*

Var. Robertsoni, Baker.

4. In considerable quantity in the hedge above the ditch near the commencement of (and close to) the footpath from the shore at Old Quay (three-quarters of a mile south of Parkgate) towards Neston: in habit reminds one of *R. Wilsoni*: the leaves are thickly glandular below; *Webb, sp.* (Typical *Robertsoni* according to Mr. Baker.) A similar form occurs in a lane-hedge under Neston Windmill; *Webb*.

Var. Smithii, Baker (*R. involuta*, Smith).

4. In a hedge by the Hoylake to West Kirby road, not far from Hoylake Station: Mr. Baker placed here some specimens I collected as above in 1872; *Webb*.

Var. Webbii, Baker.

4. In two places in the roadside-hedge not far from Hoylake Station towards West Kirby: good specimens were procurable this year (1873): being perfectly glabrous in leaf, petiole, fruit, and peduncle, the relationship to our ordinary *R. hibernica* becomes prominent; *Webb, sp.* Sent by Mr. Webb as a nondescript form, and as such recognised by Mr. Baker, who named it as above: see *J. of B.* 1874, p. 338.

R. hibernica, Smith.

Irish Rose.

In hedges. *P. Sh.* June, July.

4. Hedges about Great Meols in several places, *e.g.* Some large bushes in the far hedge of "the Green" at Great Meols,—not "the Green" open to the road, but that adjoining more to the east; Again it cannot be missed in the most inland of the two lanes that leave this Green in the direction of Leasowe; Some bushes occur in the hedges by the roadside about the middle of Hoylake; There is a considerable length of hedge composed of it by Greasby Brook as it skirts the eastern base of Thurstaston Hill: enter from the lane between Irby Mill and Irby Heath and turn to the right; It is equally plentiful and more luxuriant in a field-hedge on the other side of this lane (*i.e.* farther east), on the near slope of the "Irby Hill" of the Ordnance Map. First gathered about 1861.

All the above stations refer to the *var. glabra* of Baker's Monograph.

The form with hairy leaves (*forma typica*) is much rarer, and I have only met with it in two localities, *viz.*: In the low hedge close to the bridge which crosses the Birket, taking the lane from Great Meols (the lane above referred to) in the direction of Leasowe, and turning to the right in the fields so as to strike the railway; Also in small quantity in the hedge at the left-hand projecting corner where the road from Raby Watermill to Raby widens at the brow of the hill some quarter of a mile from the former: here it is now (1873) almost cut away in hedge-clearing, and during the past year most of the fine Rose hedges hereabouts have been "improved" into mere stumps; *Webb, sp.*

I brought a specimen of this home from the Great Meols Station in 1867, not knowing the least how to name it.

R. mollissima, (*Willd.*), Baker.

Soft-leaved Rose.

In hedges. *P. Sh.* June, July.

2. Here and there an isolated bush, *e.g.* In the west-side hedge of a small cover opposite Tabley Lane End Farm; and in a

hedgerow due west of Lennards Farm and about 150 yards from it. Mr. Bloxam named the former bush in 1867 *R. mollissima*.

4. Hoylake; (*Fisher*), *Flo. Liv.* In hedges inland of Parkgate; (*Webb*), *Ib.* Although it is a long time back since I gathered the Rose entered to *mollissima*, *Fries.*, in *Flo. Liv.*, and I have no specimen to refer to, I feel pretty sure the above was the right plant. I have not, however, come across it since, excepting a single bush in the hedge at the west extremity of the grassy lane that runs parallel with a bend of the railway between the Chester road and Neston Station; and I have a memorandum of it occurring on a hedge-bank near a cottage in the lane between Gayton Mill and Gayton; Also by the field-way from the road west of Bromborough Station to Hargrave House: In these two last instances I only saw the plant early in the season, and do not therefore guarantee it: I am convinced that the true plant is a great rarity in Cheshire; *Webb*.
5. Mr. Baker is inclined to place here a plant gathered from a hedge nearly opposite to an Elizabethan-style house between Bickley School and Bickley Hall; *Webb, sp.*
7. Several bushes in Peover Back Lane and due S. of the New Fox Cover; and several in Byley Brows.

As far as Hundreds 2 and 7 are concerned, I must say that I am in some doubt whether to class the Roses in my home district, and those of Byley, which seem to me identical, under the present species or *tomentosa*.

Var. cœrulea, Woods.

4. Sparingly by the roadside between Soughall and Upton; (*Webb*), *Flo. Liv.* Specimens were shown to Mr. Baker, and I have a distinct recollection of the plant; but I have subsequently and up to the present searched for it again in vain; *Webb*.

R. tomentosa, (Smith), Baker.

Downy-leaved Rose.

In hedges, thickets, and on bushy banks: occasionally as solitary bushes, or a few together, about old quarries and on rough waste ground. *Sh.* June, July.

1. A frequent Rose in this Hundred: *e.g.* Near Knipe Farm, south of Taxal; Between Waterside and Higher Waterside Farms, Bredbury; The road east from Poynton Station; To the south of Bottom-of-the-Oven, near Forest Chapel; In the Staleybridge neighbourhood; *Webb*. [See also *E. C. Rep.* 1890, p. 297.]
2. Hardly a field-hedge of any long extent without it in my home district, *e.g.* The Round Wood, Rinks; Woodward's Farm, Pickmere; Claygate Farm, &c.
3. Close to Hapsford Hall from Dunham; North of Beeston Castle Station; Between Bridge Trafford and Dunham.

4. Not uncommon, but I think less frequent than in Eastern Cheshire. It is thinly scattered through the Hundred; *Webb*. Thornton Grange.
5. In the roadside hedges between Chester and Blacon Point; In the first half-mile of Shay Field Lane, a mile N.W. of Handley; Hedges by the road between Lea Hall Farm and Aldford; Roadside hedge near Malpas Cemetery; *Webb*. River-side about Eccleston; Near Plemstall Church; Lane from Vicars Cross to Littleton. [Common in the Malpas district; *A. H. Wolley Dod*.]
6. Between Frith Hall and Ganton's Bank; Between the public-house at Ganton's Bank and the Congregational Chapel, say, two miles west of Wrenbury; Not uncommon about Audlem, but localities not specially noted; *Webb*.
7. Old quarries at Limekiln Farm, near Mow Cop Station; *Webb, sp.* A form with strong hooked prickles, as in the *canina* group, grows between Buglawton Toll-gate and Finger-Post House, near Congleton; *Webb, sp.* Frequent: Lower Peover; Byley Brows, near Middlewich.

Var. subglobosa, Baker (R. subglobosa, Smith).

2. I have a specimen marked "Tabley," but the more precise station is forgotten.
3. Roadside between Beeston Castle Station and the Tarporley main-road, beyond Tiverton.
4. I have gathered it prior to 1873 in the hedges between Raby Watermill and Raby, and thence to Thornton Hough: most of these hedges are now lopped low and laid; *Webb*.
5. By the bridge over the stream at Stretton Mill, about half a mile west of Carden; (*vide Baker*), *Webb, sp.*
6. Hedge at or near Foxes Bank, beyond Hankelow, towards Doddington; *Webb, sp.*
7. Hedges on the roadside at Byley Brows, Middlewich: in good quantity.

Var. scabriuscula, Baker (R. scabriuscula, Smith).

4. In a hedge by the road from Leighton Hall to Neston, about opposite to where some railings that bound a portion of Ashfield Hall grounds end: I have Mr. Baker's confirmation for terming this "typical;" *Webb, sp.*

[A *var.* between *subglobosa* and *glabriuscula* (so determined by the Rev. W. Moyle Rogers) was found (5) in a lane near "The Hooks," Carden, by Captain A. H. Wolley Dod.]

Var. sylvestris, Woods.

2. In the road-hedges at Four Lane End, near Plumbley Moor, fifty yards from the junction towards Lower Peover: probably not uncommon elsewhere.
4. Roadside-hedge by the bridge over a branch of the Birket at Newton Heath, half a mile from Frankby towards Grange; *Webb*. The plant found by Mr. Fisher and myself about

1863 and described under the name *R. Jundzilliana* in *Baker, Roses*, p. 21, and in *E. B.*, ed. iii., grew by the high-road between Moreton and The Oar Houses on the way to Hoylake; Also by a bridge over the Birket: the bush was destroyed when the road was widened: a portion transplanted to a hedge near Claughton village still exists, although the main stems have been carried away for "standards:" I think it worth while giving these particulars, as I do not consider the Newton Heath plant or any of the other "*sylvestris*" I have seen to be the same as this "original" plant; *Webb*. [*Pensby; Lewis fide Baker, E. C. Rep.* 1879, p. 11.]

***R. rubiginosa*, Linn.**

Sweetbriar.

SA. Summer. Native. Local.

5. The continuation of a cottage garden-hedge, close to the canal bridge by Tattenhall Road Station.

***R. micrantha*, Smith.**

Small-flowered Rose.

In or near hedges. *SA.* July.

1. In good quantity in the bounding hedge of a plantation within fifty yards of Adlington Mill, near Poynton: Mr. Baker inclines to place this here rather than with *rubiginosa*: of the two, I should rather prefer the former, believing it to be the *R. comosa*, *Ripart*, and identical with a plant I have gathered by the Beaumaris road, near Menai Bridge: I cannot with confidence claim it as wild either in the Cheshire or the Anglesea station; *Webb, sp.*
4. Cheshire; (*Webb*), *Baker, Roses*, p. 222. This refers to a different plant to that mentioned above, and is, I presume, the real *R. micrantha*: it grows amongst brambles on the grassy roadside waste about three-quarters of a mile from Raby Watermill towards Raby: formerly in some quantity, now reduced to one or two small bushes (1873); A Rose best referred here grows in the lane south from Lower Pensby, in the right-hand hedge, not far from the plantation marked on the Ord. Map; *Webb*.

***R. canina*, Linn.**

Dog Rose.

In hedges, thickets, woods, &c., on roadside and pitside banks and slopes, and in a variety of overgrown, waste, and untilled places. *SA.* June, July. Personal records in 1, 2, 3, 4, 6, 7; second-hand records in 1, 2, 3, 4, 5, 6, 7.

Var. lutetiana, *Baker* (*R. lutetiana*, *Leman*. The *R. canina* of *Linn. Herb.*!).

Recorded from all the districts. In some it is the prevailing form; in others *dumalis* or *urbica* takes that position: the three combined constitute a full three-fourths of our Rose vegetation. Slight variations from the type are frequently met with, but do not call for detailed specification.

Var. sphaerica, Baker (*R. sphaerica*, Gren.).

2. [Tabley Lane End ; (*Bailey*), *R. C. Rep.* 1884-86, p. 94.]
4. The north-west hedges of "The Green" at Great Meols ; *Webb*.
7. Hedgerow in the lane to the south, near Congleton Railway Station ; *Webb*, *sp.*

Var. senticosa, Baker (*R. senticosa*, *Acharius*).

1. By a bridge over the made river-channel between Waterside and Otterspool Bridge, Bredbury ; Lane from Lower Pexhill to Henbury Hall, near Macclesfield ; Near Bosley : *Webb*, *sp.*
4. With *R. Sabini* in the right-hand roadside hedge, a short distance from Hoylake towards West Kirby : plentiful and typical ; *Webb*.
5. [Field opposite Edge Hall ; *A. H. Wolley Dod*.]
6. Wrenbury Frith : (somewhat doubtful) ; *Webb*, *sp.*
7. Roadside hedge ascending Congleton Edge, half a mile beyond "Wood Hay ;" Near Warmington ; *Webb*, *sp.*

Var. dumalis, Baker (*R. dumalis*, *Beckstein*).

Recorded from all the districts : In portions of Hundreds 2, 5, and 6 it is more plentiful than *lutetiana* and *urbica*.

This variety is subject to a considerable range of variation, and occasionally presents some very curious forms both in leaf (shape and cutting), in fruit, in the conformation of styles and disc, and in glandularity : the extremes in two cases constitute the *vars. biserrata* and *verticillacantha*.

Var. biserrata, Baker (*R. biserrata*, *Mérat*).

1. Hedge of a field off the lane from Bredbury Green to Goyt Hall ; In a dell on left-hand side of the road between Disley and the Swan Inn ; Between Waterside and Higher Waterside, Bredbury ; *Webb*, *sp.*

Var. urbica, Baker (*R. urbica*, *Leman*).

Recorded from all the districts. As a rule, our Cheshire plant is somewhat off the type. Mr. Webb now prefers to place here the plants he had in view in recording *R. dumetorum* in *Flo. Liv.*, "as it is evident that *urbica* includes plants with scattered hairs on the upper leaf-surface." In my home district I believe both *dumalis* and *tomentella* to be commoner Roses than *urbica*.

Var. arvatica, Baker.

1. Not uncommon in this Hundred : I have not seen it so general elsewhere. Hedge within a few yards of the east entrance to Lyme Park ; Hedge at a termination of the lane portion of the route from Bredbury Green to Goyt Hall ; The west bank of the canal half-way between Newtown New Mills and Furness ; Hedges at Norbury Moor ;

Near to Otterspool Bridge, Bredbury; Hedge by the Pexhill road out of Macclesfield, near the turn to Great High Birch Farm; *Webb, sps.*

2. Round Wood, Tabley.

4. I have gathered this near Neston, I think in the road eastwards towards Hinderton, and have, I believe, seen it elsewhere in Wirral, but cannot quote localities; *Webb.*

This variety includes the Warrington Rose mentioned by Mr. Borrer in *Hook. Br. Fl.* ed. iii. p. 241: a Rose that Mr. Wilson felt assured was a distinct species, or form worthy of separate recognition. It is *arvatica* in its approaches to *dumalis*, not to *urbica*, and represents the bulk of our Cheshire form. In other words, the pubescence is normal and the glandularity extreme, stalked glands fringing the sepals and their *pinnae* sufficiently to have suggested the name "*ciliaris*" which Mr. Wilson attached to the plant.

Var. dumetorum, Baker (*R. dumetorum* Thuill.).

1. In Big Wood, near Staleybridge: not very satisfactory; *Baker.*

4. The plants I quoted under this name in *Flo. Liv.* I prefer to place with *urbica*; *Webb.*

5. Hedge by the field pathway from the Curzon Park road to Saltney: in good quantity.

Var. tomentella, Baker (*R. tomentella*, Leman).

1. Seen in the Staleybridge neighbourhood; *Baker.* A frequent form in the low portions of the Hundred; *e.g.* Between Marple Church and Hawk Green; The lane S.E. from the cross roads near the south entrance to Bredbury Hall; By the lane-side between Waterside and Higher Waterside, Bredbury; *Webb, sps.* Offerton Green, Stockport.

2. A common form, *e.g.* Tabley Garden Wood; Hedges on Ashbrooks Farm; Tabley Hill; and many other places; Between Ashley Station and Castle Mill.

3. Near Oulton Mill; Helsby by the turn to the Station; Tiverton, N.; Spurstow, S.

4. Comparatively rare in this Hundred. I have seen it in two of the lanes between the Moreton and Great Meols road and the railway, sparingly; By the field-footpath from the road west of Bromborough Station to Hargrave House, also sparingly (possibly this was *R. obtusifolia*, but I have no specimen to refer to); In the hedge overhanging the wooded dell alongside the footpath in a steep field between Poolton Hall and Dibbinsdale Brook; *Webb.* Hedge nearing the canal bridge from Little Mollington. [*Willaston*; (*Lewis*), *E. C. Rep.* 1879, p. 11.]

5. In the lane south from Guilden Sutton to the turnpike road; By the bridge over the stream at Stretton Mill, half a mile west of Carden; Hedge near the new cemetery buildings out of Malpas; *Webb.* Right-hand hedge about

half-way between Lea Hall Farm and Aldford; By the roadside border of Bache Pool, Chester; Hedges near The Lache Eyes. [By pond near the Upper Wood, Edge: not typical; *A. H. Wolley Dod.*]

6. Common through this Hundred, *e.g.* Between Crewe and Crewe Green before reaching the Toll-gate; Out of Crewe towards Wybunbury; Also out of Crewe on the Nantwich road, in plenty; Hedges in Wrenbury Frith; The most frequent hedgerow Rose in various parts near Audlem, &c.; *Webb.*

7. In a lane to the south, near to Congleton Railway Station; Hedges at and near Winterley; *Webb.*

Abundant in the plain of Cheshire: thins out in the hilly districts of the east, and in the littoral portions of the west.

Var. obtusifolia (*R. obtusifolia*, *Desv.*).

4. In the raised hedge at the corner of the road from Greasby to Irby Mill; *Webb.* [Willaston; (*Lewis*), *E. C. Rep.* 1879, p. 11.]

6. In the lane under Buerton Mill, near Audlem; *Webb, sp.*

Apart from the technical characters of simple leaf-serrature, lack of glands below, &c., this has quite a different habit to *tomentella*.

Var. verticillacantha, *Baker.*

1. Seen near Disley twice: not satisfactory: nothing like the marked form shown by the specimens from Hundred 2; *Webb.*
2. In the lane leading from Knutsford Racecourse to Tabley Hall.
3. The turn to the eastward from the Rake Lane near Helsby Station.
4. For this I can only name a roadside waste at the corner of the first road to the left from Raby Watermill towards Raby: I cannot now vouch for the Rose records as far back as *Flo. Liv.*, and at the best I have only seen in Wirral what I consider to be *R. dumalis*, with more or less of setæ on the peduncle; *Webb.*
5. [Field opposite Edge Hall; Near Broxton Wood; Duckington; *A. H. Wolley Dod.*]
7. Hedge in the lane from the Limekiln Farm quarries near Mow Cop, to Shrigley's smithy: not satisfactory; *Webb.*

Var. collina, *Baker.*

1. A small bush a few yards before the road north from Taxal enters the main road: a similar plant to the Wirral one mentioned below; *Webb, sp.*
4. In 1872 I gathered specimens from a plant close to the deserted limekiln on the river-bank under Thurstaston: these have been passed as *R. collina*, *Jacq.*, and I have seen shoots of what I take to be the same in the field-

hedge below Yew Cottage, Hill Houses, West Kirby. From appearances I judge that there has been a garden by the limekiln years ago, and in the second case I doubt not the plant is introduced; but I do not know what garden Rose it is that so degenerates. I cannot think that the plant Mr. Baker has in view in his Monograph is the *R. collina*, *Jacquin*; *Webb*.

Var. decipiens, *Dumort.*

2. Cheshire; (*Wilson and J. L. W.*), *Baker, Roses*, p. 233. A single bush by "Gee's Walk" in Tabley Garden Wood.
7. Hedge in the by-road from Wood Hay to the road into Congleton; Warmingham, near the Church: not satisfactory in either case, but technically must be placed here; *Webb, sps.*

Var. Reuteri, *Baker (R. Reuteri, Godet).*

1. At the corner of the lane to Badger's Clough, off the main road between Disley and the Swan Inn; *Webb, sp.*
4. By the roadside a short distance from Raby Watermill towards Raby: not very satisfactory; *Webb.*

Var. subcristata, *Baker.*

1. Seen several times in the Staleybridge neighbourhood; *Baker*. Tolerably frequent in the north part of the Hundred: e.g. The Badger Clough lane, near its exit on the main road east of Disley; Edge of wood at "Bank End," between Newtown New Mills and Furness; The lane south from Taxal Church before entering the fields; The form with ovoid fruit grows on the sloping bank above the stream near Knipe Farm (south of Taxal); *Webb, sps.*
2. In a hedge next the field but one opposite the small hatch-gate of Tabley Grange; Also in a field used for young nursery saplings; Another specimen marked "Tabley," but more precise locality forgotten.
3. The north bank of Thornton Churchyard, above the roadway; *Webb*. Lane under Little Barrow.
4. In North and Mid-Wirral this is a frequent Rose, e.g. about Moreton; Hoylake; West Kirby; Thingwall; Raby Watermill; Thornton Hough, &c.; *Webb.*
5. In the first half-mile of Shay Field Lane, with *R. tomentosa* (*q.v.*); Hedges in the lane from Carden Green to Stretton Mill; *Webb*. [Foot of Bickerton Hill; *A. H. Wolley Dod.*]
6. A short distance along the Wybunbury road out of Crewe; In the lane that leads to the Moss from Wybunbury; Once seen near Audlem, on a field-bank by the railway west of the village; *Webb.*

Var. Hailstoni, *Baker.*

1. A plant Mr. Baker is inclined to name as above grows at the

roadside edge of a field about half-way between Disley and the Swan Inn at Newtown New Mills: I can only see in it a curious state of *dumalis*; *Webb, sp.*

4. Mr. Baker gave this name to a Rose gathered in a hedge close to the footpath in one of the fields between Poolton Hall and Dibbinsdale Brook: it is not worth separation; *Webb.*

Var. implexa, Baker.

1. The most frequent form of the *subcristata* group in the East Cheshire high grounds: it is a strikingly fine Rose and well marked; The lane from "Reddish," near Whaley Bridge, to the main road; A magnificent bush by the side of the road north from Taxal (a quarter-mile distant) to the main road; Raised ground by the side of Redmoor Lane, near Newtown New Mills, opposite to a farmhouse, &c.: in the above localities the sepals are glandular on the back; The Pexhill road out of Macclesfield, nearing Pexhill Farm: with glandular sepals; *Webb, sps.*
7. About fifty yards along the lane to the right from the canal bridge north of Buglawton Hall, near Congleton, very fine: sepals glandular; *Webb, sp.*

Var. coriifolia, Baker (R. coriifolia, Fries.).

4. In good quantity in a rough field a little north of the lane that starts by West Kirby Church and passes down to the shore: the name is confirmed by Baker and Déséglise; *Webb.*
5. Hedge near the cottage on the top of Bickerton Hill.

Var. Watsoni, Baker.

1. The first Rose-bush in the lane to Badger's Clough from the main road between Disley and Newtown New Mills: passed by Mr. Baker; *Webb, sp.*
2. One very fine bush by the pathway leading to the Ice-House in Tabley Garden Wood.

Var. marginata [R. Blondceana (Rip.). W. M. R.]

1. The roadside hedge of a cottage garden below the cross-roads at Norbury Moor and "Mill Bank:" This agrees very fairly with the description of *marginata* as rendered by Mr. Baker, at the same time it does not accord with his idea of the plant: it most certainly attaches to the *canina-rubiginosa* group; *Webb, sp.*

R. stylosa, Desv.

Prominent-styled Rose.

In hedges. *Sh.* June, July.

Var. rusticana (R. rusticana, Déség.).

In the hedge near an old brickfield close to the canal on the south side, and about a hundred and fifty yards from the bridge over it, called Bergemewirk, between Disley and Newtown New Mills, in good quantity.

Specimens of this Rose were sent by Mr. Baker to Dr. Christ of Bâle, who pronounced it one of the *stylosæ* from the conical disc, the very prominent styles, and the pubescence of the petiole—though the last character, he remarked, was rather faintly represented in these specimens—for which reasons he named it with no kind of doubt as above.

R. arvensis, Huds.

Trailing Rose.

In hedges, thickets, woods, and on bush-grown banks and wastes. St. June, July. Personal records in 1, 2, 3, 4, 6, 7; second-hand records in 1, 2, 3, 4, 5, 6, 7.

Common in the lower levels of Hundred 1, and through all the other Hundreds.

A curious form, named by Déséglise "*R. arvensis, Huds. var.*" was found in the right-hand hedge of the road about half a mile from Frankby towards Grange, say within a hundred yards before the bridge mentioned under *tomentosa var. sylvestris* is reached; *Webb, sp.*

CRATÆGUS, Linn.

C. Oxyacantha, Linn.

Common Hawthorn.

The ordinary component of hedgerows; also in woods and thickets. T. June. Ascends to 1000 feet in Hundred 1. Native in montane Cheshire. Generally distributed. Personal records in 1, 2, 3, 4, 6, 7; second-hand records in 1, 2, 3, 4, 5, 6, 7.

At Charlesworth Coombs, near Mottram, and at Staly Brushes, it has every appearance of being truly wild, and is particularly remarkable for its twisted branches; *Buzt. G.*

Mr. Robinson records the *var. oxyacanthoides, Thuill.*, at Cattenhall, near Frodsham; *Flo. Liv.*, and Mr. Webb has seen planted trees in Birkenhead Park; *Flo. Liv. (var. oxyacanthoides?)*. In the S.E. corner of Eaton Hall grounds, near the river, I have found the *var. laciniata*.

I believe not native, except in some of the higher districts: certainly the stunted hill-bushes of Crowden Vale, and even more those of the open hill by Blackmoor plantation, on the high ground between Lyme and Disley, look native enough.

[*Var. oxyacanthoides*, I think, is common, if not the commoner *var. (i.e. in Hundred 5)*; *A. H. Wolley Dod.*]

PYRUS, Linn.

P. torminalis, Sm.

Wild Service-tree.

In woods in South and Central England. T. Spring. Alien; planted.

3. Delamere Forest, truly wild; (*J. F. Robinson, MS.*); *Comp. Cyb. Brit.* Part iii. p. 610.

P. Aria, Sm.

White Beam-tree.

Where wild, prefers limestone rocks and chalky banks. T. Early Summer. Alien; planted. Occasional.

1. Grows as a shrub on the sloping wooded bank in the first

field taking the usual foot-route from Bredbury Green to Bredbury Hall, &c.: originally planted, I have very little doubt; *Webb*.

2. Wood beyond Ashley Hall; *Hunt, sp.* A single tree in the thickest part of Tabley Ride Wood, but with no claim to nativity.
4. Occasionally in woods and hedges in Wirral, but evidently planted there; *Dick. Flo.*

P. Aucuparia, Gart.

Mountain Ash.

Woods, thickets, stream-banks, the moss-lands, and frequently seen in deserted quarries and on tumble-down buildings. *T.* Early Summer. Ascends to 1200 feet in 1. Native. Generally distributed. Personal records in 1, 2, 4, 7; second-hand records in 1, 2, 3, 4, 6.

In the natural wood of the most eastern of the two cloughs above the new Stockport reservoir at Disley, I noticed a truly magnificent tree: it measured 4 ft. 6 in. in circumference, and was, I judge, 60 feet high; *Webb*.

In many cases planted; but on the higher grounds of the county, *e.g.* far up Great Crowden, and most of the old Cheshire plain mosses, I believe indigenous.

P. communis, Linn.

Wild Pear.

Hedges, &c. *T.* Spring. Not native. Rare.

4. In a hedge in a lane leading down to the shore between Gayton and Parkgate: an old broad thorny tree, assuming somewhat the habit of the Buckthorn; Another tree farther on. Clearly not native.

The Manchester Floras do not mention this tree at all. The two later Liverpool Floras refer to it as seldom met with, and then only where it is clearly non-native.

P. Malus, Linn.

Crab Apple.

Hedges, thickets, and woods. *T.* Spring. Native. Generally distributed. Personal records in 2, 3, 7; second-hand records in 1, 2, 4, 5, 6, 7.

I have specially noticed the presence of both forms of *P. Malus* in Hundreds 1 and 4: in 4 I think *mitis* is the more frequent; *Webb*.

"I have seen *Pyrus acerba, DC.*, certainly in Cheshire. . . . The true or austere Crab has nearly glabrous leaves, with small, very sour fruit on slender pedicels;" *Comp. Oyb. Brit.* Part iii. p. 510.

I believe a true native in Cheshire.

(*P. fennica, Hunt, Hb.* has a specimen so labelled from "Plantations, Bowden, 1861." It seems only the *P. pinnatifida*, so usual in gardens.)

LYTHRACEÆ.

LYTHRUM, Linn.

L. Salicaria, Linn.*Purple Loosestrife.*

By streams and margins of ponds, in wet ditches, and marshy places.

P. Late Summer and Autumn. Native. Generally distributed.

Personal records in 2, 7; second-hand records in 1, 2, 4, 5, 6, 7.

Does not occur in the high ground of Hundred 1.

PEPLIS, Linn.

P. Portula, Linn.*Water-Purslane.*Moist ground, and in shallow water, preferring a heathy soil. *A.?*
July, August. Ascends to 300 feet in 1. Native. Local.

1. Upon Lindow Common; *Buxt. G.* In ditches at Godley; (*John Shaw*), *Gr. Flo.* Small pit by the roadside, a mile from Woodford towards Poynton; *Webb.* Red Lion Common, Lower Withington, south of Chelford.
2. On and near Baguley Moor; Altrincham; *Wood, Flo.* About Sale; Upon Hale Moss, abundant; *Buxt. G.* A pit south of Tabley Park Sandhole; Knutsford Racecourse; Mere Mere; Flaxmere; Fish Pool, Delamere.
4. Heswell Hills; (*Miss E. Potts*), *Hall, Flo.* Ditches near Bidston Hill; *Hall, Flo.* Oxtan; *Dick, Flo.* Ditches by the field-way path from Bidston Hill to the Cemetery; Margin of a pit at S.W. corner of Oxtan Heath, above Noctorum; A moist piece of heathy ground in the fir plantation through which the pathway from Haddon Hall to Burton passes; *Webb.* In a pit by the lane-side between Willaston Mill and Hargrave Hall; *Fisher and Lewis.*
5. Pool-side at Little Heath, near Christleton. [Pond near Bickerton; *A. H. Wolley Dod.*]
6. In a moist depression on Hankelow Green, near Audlem; *Webb.* Pits on the waste ground by the roadside at Clannor Heath, near Wybunbury; *Newbould and Webb.*
7. Edges of Peover Heath Pool.

ONAGRACEÆ.

EPILOBIUM, Linn.

E. angustifolium, Linn.*French Willow.*In damp places, either in woods or the open ground. *P.* July and August. Ascends to 500 feet on Danes Moor. Native. Rare.

1. Longdendale, above Tintwistle; *Gr. Flo.* Several places on the borders of ponds between Marple and Strines; (*Sidebotham*), *Gr. Flo.* Upon Danes Moss, near Macclesfield, on that part where the moss-land merges into the cultivated, say, one-third of a mile in rear of the rifle-butts; *Webb, sp.*

2. Wood Lane, Mobberley: probably an outcast from some cottage garden; *Holland*. The Ride Wood behind Tabley Lake: only a small patch where an imaginary line drawn due S. of Tabley Old Hall would cross the wood; Marbury Woods: visible from the road about half a mile from the house, going there from Northwich.
3. On a clay-bank, Helsby: rather plentifully; (*Robinson*), *Flo. Liv.* and *Hunt, Hb.* This is rightly noted as the *var. brachycarpum*.
5. [Appears in fox-covers at Horton the year after they are cut down; *A. H. Wolley Dod.*]
7. In a cover by the roadside, just above the letter "d" in Rudheath, as written on the Ordnance Map: the plant not being in fruit, it is perilous to decide to which form to refer it by the leaf-bases only.

Is not the garden plant *always* the sub-species or variety *brachycarpum*? If so, the other (*macrocarpum*) may be held native where found; *Watson, MS. Notes*.

My Ride Wood plant is *a. macrocarpum*, as is also the Danes Moss plant, and there is no doubt of the latter being a wild station, the species being common upon the Lancashire mosses; *vide Buxt. G. and Dick. Flo.* It is not stated to which form the Tintwistle and Strines plants belong; and the Mobberley plant will be *β. brachycarpum*, [as also that from the railway bank between Helsby and Frodsham in Hundred 3; (*Fraser*), *R. C. Rep.* 1884-86].

***E. hirsutum*, Linn.**

Great Willow-herb.

On the sides of ditches, ponds, streams, &c., and in watery places generally. *P.* July and August. Ascends to 600 feet in Hundred 1. Native. Generally distributed. Personal records in 2, 3, 4, 7; second-hand records in 1, 2, 4, 5, 6, 7.

***E. parviflorum*, Schreb.**

Hoary Willow-herb.

In ditches, by ponds, and in other wet situations. *P.* July and August. Native. Generally distributed. Personal records in 2, 3, 4, 7; second-hand records in 1, 2, 4, 5, 6, 7.

The *sub-var. rivulare* of Wahlenberg is not uncommon in my home district; *e.g.* in Sudlow Lane. In Hundred 3 it occurs at a pit-side on waste ground at Bulkeley, and in Hundred 4 in a ditch of the lane between Raby Water-mill and Bleaky Brow.

***E. montanum*, Linn.**

Broad-leaved Willow-herb.

Woods and shady places, also old walls, quarries, &c. *P.* June to August. Native. Generally distributed. Personal records in 2, 5, 7; second-hand records in 1, 2, 4, 5, 6, 7.

***E. roseum*, Schreb.**

Rose Willow-herb

Damp places, often affecting garden ground. *P.* July, August. Native. Rare.

2. Copiously, in 1866, in a damp, shady, dry pit in Tabley Garden Wood, in company with *E. obscurum*.

5. In the ditch, on the left-hand side going from Tattenhall Station to Tattenhall Village, just before coming to the first farmyard; *Lewis, sp.* [Very rare, higher Wych; *A. H. Wolley Dod.*]

7. By Bradshaw Brook, near the *Sanguisorba* (q.v.): only two plants.

Will no doubt be found when sought for in all the other districts. Our Cheshire soil is very favourable to the genus generally. I did not myself detect this species, though it grows close to me, except after a careful study of the genus. I submitted the Tabley plant dried to Mr. Watson, and showed it to Mr. Bloxam growing.

E. tetragonum, Linn.

Square-stalked Willow-herb.

In damp places. *P.* July, August. Native. Information imperfect.

4. In a shallow ditch, on the left-hand side of the road from the "Ferry House" at Parkgate to Leighton Hall, &c., about a quarter of a mile from the former; *Webb.*
5. Sparingly in the first half-mile of Shay Field Lane, 2½ miles south of Waverton Station; Again, and very fine, in a ditch some distance along the lane, between the second gate and the fields above Lea Hall Farm; *Newbould and Webb, sp.* The Broxton road, half a mile east of Tattenhall; Brook N.E. of Tattenhall; Newton; The Lache Eyes, Chester, sparingly.
7. In the lane on the east side of Peover Heath Covert; see *J. of B.*, vol. ix. (1871), p. 8.

E. obscurum, Schreb.

Deceptive Willow-herb.

Roadside gutters, the base of damp walls, rock cuttings where the water trickles down, and other wet places. *P.* July to September. Ascends to 1500 feet in Hundred 1. Native. Probably general.

1. In the Staleybridge district, everywhere common in runnels, &c.; *Baker and Webb.* Gutter by the roadside turning out of Disley Village to Higher Disley, and in many other places thereabouts; By a little rill alongside the road which follows the course of the river Goyt, say two miles above Goyts Bridge (1500 ft.); Between Forest Chapel and Tor Gate; *Webb.*
2. Hale Moss and Rostherne, *Hunt, sps.* Common in my home district, e.g. Tabley Garden Wood; Acton Grange.
3. On a damp wall at Frodsham; (*Robinson*), *Flo. Liv.* By roadside between Helsby and Alvanley stations; The north bank of Thornton Churchyard from the roadway; *Newbould and Webb.* Alvanley; Tarpoley; Peckforton, N.; Overton; Frodsham.
4. At the base of walls by the roadside, between Neston and Hinderton; The face of the damp stone cutting by the Toll-gate at Bidston; *Webb.* The "*Pinguicula* ground" near Raby Mill.
5. Between Tattenhall Station and Gates Heath; Again in the lane by Golbourne Belleau Farm; Under the railway bridge near Bache Pool, Chester; *Newbould and Webb.*

The base of a damp wall out of Barton, on the road to Coddington, and frequent in the neighbourhood; *Webb*. The wall-hedges under Chester Castle: not typical; Dickson's Nursery, Chester; Waverton Quarry; Christleton.

6. Common about Audlem; *Webb*. Roadside between Crewe and the bridge of the Nantwich railway; *Newbould and Webb*.

7. Common in the neighbourhood of Congleton; *Webb*.

E. palustre, Linn.

Marsh Willow-herb.

In wet, boggy places, and watery ditches. *P.* July, August. Ascends to 1300 feet in *l.* Native. Generally distributed. Personal records in *l.*, 2, 3, 4, 7; second-hand records in *l.*, 2, 4, 5, 6, 7.

The broad-leaved form, *E. lingulatum*, Bab., grows at (2) Hale Moss; (*Hardy*), *E. C. Rep.*, 1858, and *Hunt*, *sp.* (July 1858).

[The following hybrid *Epilobia* are reported from Cheshire:—

E. hirsutum × *obscurum* (*E. anglicum*, Marshall).

5. Edge Park, August 1893; (*A. H. Wolley Dod*), *E. C. Rep.* 1893.

E. parviflorum × *palustre* (*E. rivulare*, Wahl.).

5. Pond near Duckington, August 1893; (*A. H. Wolley Dod*), *l.c.* 1893.

E. parviflorum × *obscurum*.

5. Near Malpas, July 1894; (*A. H. Wolley Dod*), *l.c.* 1894.

E. montanum × *obscurum*.

5. Duckington, July 1894; (*A. H. Wolley Dod*), *l.c.* 1894.

E. hirsutum × *parviflorum*.

5. Quoisley Mere; *A. H. Wolley Dod*.

E. hirsutum × *montanum*.

5. Edge Park; *A. H. Wolley Dod*.—ED.]

GENOTHERA, Linn.

G. biennis, Linn.

Evening Primrose.

Sandy ground near the coast. *B.* July to September. Alien or casual. Rare.

4. In sandy fields near Leasowe Castle; (*Webb*), *Flo. Liv. and sp.* (1860) in *Hunt*, *Hb.* The sandhills at New Brighton; (*T. Sansom*), *Dick. Flo.*

CIRCÆA, Linn.

C. lutetiana, Linn.

Enchanter's Nightshade.

In woods, dells, and shady situations, also a weed in shady garden ground. *P.* June to August. Ascends to 650 feet in Hundred *l.* Native. Generally distributed. Personal records in *2*, *5*; 6; second-hand records in *1*, *2*, *3*, *4*, *5*, *6*, *7*.

CIRCÆA, Linn.

C. alpina, Linn.

Woods, shady places, and a weed in garden ground. *P.* July to September. Ascends to 500 feet in Hundred *l.* Native. Rare.

Var. intermedia.

1. In a wood on the left bank of the river Tame, near Arden Mill, Reddish Vale; In Bredbury Wood, near Hyde;

Woods near Marple, abundant; *Buxt. G.* A troublesome weed in the Railway Station garden at Disley; Also in the garden of the police officer's house at Disley; Within 100 yards of the Toll-gate at Dan Bank on the Marple to Stockport road, growing above the supporting wall of the bank under the wood on the left-hand side of the road; *Webb, sp.* The wooded bank at higher part of Gatley Carrs; Apethorne Wood, Hyde.

2. Cotterill Wood, plentiful; *Buxt. G.* Common in woods about Bowdon; (*Hunt*), *Add. Gr. Flo.* A weed in gardens at Bowdon; *Sidebotham*. On a steep clay bank in a wood near Castle Mill, Ashley, 1858 and 1863; *Hunt, sp.* A clough towards the Bollin under Brick House Farm, south of Ringway; Head of the stream in Apethorne Wood near Hyde; Cotterill Clough.

[*N.B.*—Typical *C. alpina* is reported from Stirrup Wood, near Mottram (in Hundred 1); (*Searle*), *R. C. Rep.* 1881–82. Also from a wood at Marple in the same neighbourhood; (*Whitehead*), *Ib.* 1883.]

HALORAGÆ.

MYRIOPHYLLUM, Linn.

M. verticillatum, Linn.

Whorled Water-Milfoil.

In ditches and ponds. *P.* July, August. Native. Rare.

1. Stockport Little Moor: in ponds; *B. G.*
2. Lymm; *Gr. Flo.* Ditch in Moss Lane, Halton Moss, near Moore.
4. In pits close to Parkgate; (*Miss E. Potts*), *Hall, Flo.* Near Hoylake; *Dick. Flo.*
6. Near Nantwich, but not quite certain, as the plant was out of reach; *Brown.*

Although inserted as "very common" in a Manchester Flora, and described as "frequent" in *Flo. Liv.*, such statements do not apply to Cheshire, and the above rather vague localities are all I can muster for the county.

M. spicatum, Linn.

Spiked Water-Milfoil.

In meres, pits, and ditches. *P.* June to August. Ascends to 500 feet in Hundred 1. Native. Fairly distributed, but not actually common. Personal records in 1, 2, 3, 4, 5, 6, 7; second-hand records in 1, 2, 4, 5, 6, 7.

Seems to prefer meres to pits.

M. alterniflorum, DC.

Alternate-flowered Water-Milfoil.

In pits and ditches. *P.* July, August. Native. Probably not uncommon, but much overlooked.

2. Pits on Baguley Moor, plentiful; *Buxt. G. and Hunt, sp.* Pit on Tayler's Park, Pickmere: in nice flower, 1868.
3. Hatchmere; *Melville*. In a ditch at Frodsham; (*Robinson*), *Flo. Liv.* Achmere; *Robinson*, *L. N. J. p.* 197.

4. Plentiful in some pits near Lower Bebbington, on the road to Parkgate; Also in a pit near Queen's Ferry; (*Shillito*), *Flo. Liv.* Pond near New Brighton; (*Fisher*), *Flo. Liv.* Small pit on Hilbre Island; (*Miss Grundy*), *Flo. Liv.* In a pit in the second field on the left-hand side of the lane from Oxton Village to Woodchurch; (*Webb*), *Flo. Liv.* In a large pit adjoining the lane about half a mile from Hadlow Road Station towards Hall Wood Farm; (*Brown*), *Sec. App. Flo. Liv.*
5. A pit near Crewe Station, 1868: in flower.
7. A pond at the roadside between Sandbach and Middlewich; *Holland.*

HIPPURIS, Linn.

H. vulgaris, Linn.

Common Mare's-tail.

In ditches and splashes, near the coast. *P.* Summer. Native. Rare.

1. Redes Mere, Capesthorpe; (*J. W. Hatton*), *Nat. ii.* (1865), p. 155.
4. Plentiful on Bidston Marsh; *Hall, Flo.* Near New Brighton at the back of the sandhills; (*A. Higginson*), *Hall, Flo.* Egremont; (*Watson*), *Hall, Flo.* New Ferry; Hoylake; *Dick, Flo.* Ditches in the Lower Lang fields, west of the field-way track from Hoylake to the Hill Houses; Still flourishes on Bidston Marsh, 1873; *Webb.*

CALLITRICHE, Linn.

C. vernalis, Syme.

Spring Starwort.

Pits, lakes, and ditches. *P.* April to August?. Native. Distribution imperfectly known.

2. Hale Moss, Bowdon, September 1862; *Hunt, sp.* This is probably right, and is mentioned as having been confirmed by Mr. Baker; but the fruits are very few, and hardly mature enough for absolute certainty. As usual, *vernalis* is reduced to one gathering in this Herbarium; true *stagnalis* is represented abundantly from the Bowdon vicinity.

C. obtusangula, Le Gall.

Ditches, &c. *P.* Summer and Autumn. Native.

2. Ditch, Moss Lane, Moore.
3. Trenches on Frodsham Marsh.
3. Ditch in the Marsh Lane, Ince; (with *C. stagnalis*).
4. Watercourse, Blacon Point.
5. Watercourses, The Lache Eyes; Ditches, "the Meadows," Chester.

C. stagnalis, Scop.

Common Starwort.

Pits, lakes, and ditches. *P.* May to September. Native. Generally distributed. Personal records in 2, 3, 5, 7; second-hand records in 1, 4, 5, 7.

This is the common *Callitriche* of the county, and, as far as my experience goes, of England generally. It is perhaps worth stating,

as there is some ambiguity in the application of the names *stagnalis* and *platycarpa*, that specimens from Tabley have been labelled with both names by Prof. Hegelmaier, he using the names as synonyms. My record for (7), passed by the same authority, is the upper Mill-dam, Lower Peover.

C. hamulata, Kütz.

Hooked Starwort.

In clear still water; pits, meres, and ditches. *P.* June to October. Native. Probably general.

2. *Hale Moss; Hunt, sp.* Tabley Lake: passed by Prof. Hegelmaier; In a small circular pond in the middle of Tabley kitchen-garden; In a ditch by the lane-side near the sandpit on Tabley Hill; and in many other places in my home district.
4. In a small pit near the coast-line, half a mile north of Parkgate.

C. pedunculata, DC.

Ponds, ditches, and damp places. Common. *P.* Spring to Autumn.

5. Semi-dry pond between Christleton Parsonage and Girls' School.

C. autumnalis, Linn.

Autumnal Starwort.

Lakes and mill-dams. *P.* July to October. Native. Rare?

2. Tabley Lake, N.W. end, near Tabley Boat-House: requires careful search, as it is intermixed with *Anacharis*: passed by Prof. Hegelmaier: *vide Syme, E. B.* vol. viii. p. 122; Again, and in much larger quantity, on the mud of the upper dam of Holford Mill, nearly 2 miles distant, whence I have distributed a large supply through the Exchange Club.

An unexpected addition to our flora. The distribution of this species, as at present known in England, is strange; Tyne, Chester, and Devon being the only comital records. In Scotland it is much commoner; it also occurs in Wales (Anglesea).

CUCURBITACEÆ.

BRYONIA, Linn.

B. dioica, Linn.

Common Bryony.

In hedges, but in such situations as suggest doubtful nativity. *P.* June to August. Denizen? Rare.

1. Hedges about Northen; *Gr. Flo.*
2. Near Carrington Moss, far from any house, and apparently wild; *Wood, Flo.* Hedges about Sale and Carrington, rather sparingly. Between Altrincham and Broadheath; *Gr. Flo.* Hedges near Broadheath, Altrincham, 1857; *Hunt, sps.* Between Mobberley and Knutsford; (*Holland*), *Gr. Flo.* Hedges at Weston, near the Soapworks, 1850; (*J. Harrison*), *Dick. Flo.* In a hedge on the west side of Knutsford Upper Moor.

3. Frodsham; (*T. Gibson*), *Flo. Liv.* Woodhouses, near Frodsham; (*Robinson*), *App. Flo. Liv.* Near Ince, 1852 (*F. P. Marrat*), *Dick. Flo.*
4. In a hedge at Prenton; (*Mrs. T. Gibson, jun.*), *Flo. Liv.*
5. Hedges about Chester; (*J. Price*), *Flo. Liv.* It grows freely in the hedge of the lane along the south boundary of the grounds of Chester College; *Webb and J. L. W.* Lane alongside Bache Pool; "The Meadows;" Dee Cop; Vicars Cross-road, by the railway.

Buxton's Flora sums up the Manchester localities by saying, "Probably planted: hedges chiefly about houses and gardens." Still it *may be* in some cases an indigenous member of our flora, though I have seen no unquestionable station as yet.

GROSSULARIACEÆ.

RIBES, *Linn.*

R. Grossularia, *Linn.*

Gooseberry.

In hedges, woods, and occasionally by the side of streams. *P. Spring.*
A stray from cultivation. Occasional.

1. Woods near Marple; *Buxt. G.*
2. Cotterill Wood, "unquestionably wild;" *Wood, Flo. and Phyt. i.* (1842), p. 282. Ashley Woods; Mobberley, by brook-sides; *Gr. Flo.* Bowdon; *Hunt, sp.* Ride Wood, Tabley; Belt between Four Lane End and the Red Lodges; Road-side near the "Smoker" Inn, and in many woods round Tabley: often in sufficiently lonely places, often doubtless bird-sown.
4. The Floras say, occasionally met with but not indigenous. In a field corner near a green lane at Hoylake: cottages, however, were handy; Also near Wallasey.
5. [Naturalised in woods about Edge; *A. H. Wolley Dod.*]
7. Peover Heath Cover.

R. alpinum, *Linn.*

Alpine Currant.

Sometimes planted as a component of hedges, but not often met with. *P. Early Summer.* Not native. Planted. Rare.

1. In garden hedges about Staleybridge; *Buxt. G.* Woods at Styal; *Gr. Flo.* Hedge at commencement of the lane to Waterside from the main road from Disley to New Mills: undoubtedly planted; *Webb.* Staley Wood, in a place called Stocks; (*Mr. Bradbury*), *B. G.* Abundant in hedges between Gorton and Reddish; (*Sidebotham*), *Gr. Flo.*

The *B. G.* locality appears to have been passed over by the compilers of the Manchester Floras.

R. rubrum, *Linn.*

Red Currant.

In woods, and by the sides of streams and mill-races. *P. Spring.*
A garden stray, nearly naturalised. Occasional.

2. Cotterill Wood; Hedges near Jackson's Boat; *Buxt. G.* Ride Wood, Tabley; In the belt between Four Lane End

and Red Lodges, in Woodward's meadows, near where Peover Eye becomes Wincham Brook at Plumbley; As a stray not infrequent in Tabley Woods.

4. "Occasionally in hedges and thickets," but no localities given in the Liverpool Floras.
5. By river, meadow plantation, Eaton Hall grounds. [Naturalised in woods about Edge; *A. H. Wolley Dod.*]
7. Along the mill-race at Daneinshaw, 2 miles from Congleton; (*E. S. Wilson*), *Phyt.* ii. (1846), p. 551. In a mill-race at Lower Peover Mill; and several bushes at the lower or Brookside end of Peover New Fox Covert, &c.

***R. nigrum*, Linn.**

Black Currant.

In woods, cloughs, and by the side of streams. *P.* Spring. Garden stray, naturalised? Occasional.

1. Wood near Marple Aqueduct; Gatley Carrs; *Gr. Flo.*
2. Ashley Woods; *Hunt, sp.* In a wood near Ashley Mill; *Buxt. G.* ed. ii. Mobberley, by brooksides; *Gr. Flo.* Ride Wood, Tabley.
4. *Flo. Liv.* is content with saying, occasional but not wild.
5. [Naturalised in woods about Edge; *A. H. Wolley Dod.*]
7. Peover Heath Cover. A good permanent station in a plash by the roadside leading from Lower Peover Mill to Henry Leach's Farm; Also some bushes in the stonework of the mill itself.

R. Grossularia, *R. nigrum*, *R. rubrum*. I consider all three to be aliens, although they are probably to be found in all Cheshire woods of any extent, and by the principal brooks; *R. Grossularia* looking least native; *R. rubrum* most so.

CRASSULACEÆ.

SEDUM, Linn.

***S. Telephium*, Linn.**

Orpine Sedum.

Upon dry hedge-banks. *P.* August, September. Native. Rare.

Var. β. purpurascens, Koch.

2. Hedge-banks near Ashley, but sparingly; *Gr. Flo.* Hedges beyond Ashley, 1856; *Hunt, sp.*
3. Overton Hills, in several places; (*Robinson*), *Flo. Liv.* Road-side bank a quarter to half a mile north of Spurstow.
4. In lanes about Oxton; In the road leading from Tranmere to Prenton; *Hall, Flo.* Lane leading from Prenton towards Woodchurch; (*Brown*), *App. Flo. Liv.* Hedge-banks of the lane leading from Caldys to West Kirby; *Webb.* About Heswell; (*Mrs. S. Boulton*), *Flo. Liv.* Hedge-cop in the lane from Gayton Mill to Gayton, near to a cottage on the left-hand side; *Webb.* Lane bank between Gayton Mill and Gayton.
5. [Overton Scar; *A. H. Wolley Dod.*]
6. In plenty on the hedge-banks in the latter half of the road from Wybunbury to Walgherton: wild, I believe; *Webb.*

S. dasyphyllum, Linn.*Thick-leaved Sedum.*Walls. *P.* Summer. Not native. Rare.

1. On the garden-wall at the residence of Captain Clarke, near Hyde; (*Sidebotham*), *Buxt. G.*

Two of the Manchester Floras have thought it worth while to insert the above, and as, in a way, their historian, I repeat the record.

S. anglicum, Huds.*English Sedum.*

On sandstone rocks, amongst quarry refuse, and upon dry hedge-banks near to the Dee coast. *P.* July, August. Ascends to 250 feet. Native. Rare; Wirral only.

4. Abundant on Grange and West Kirby Hills; (*Wm. Harrison*), *Dick. Flo.* Heswell Hills; (*Skellon*), *Ib.* Near Parkgate; (*Maughan*), *Ib.* Grows plentifully on the rocky piece of ground at the junction of the roads on Grange Hill, and in the lane called "Lang Lane," leading thence to the Hill Houses; It is to be found in quarries, &c., on the Heswell range, and is very abundant in the interstices of the stone-built hedge-cops by the road for a quarter of a mile before entering Benton from Ness: this is the most southerly point at which we have seen it, and the Liverpool Floras only record to Parkgate; *Webb and J. L. W.*

S. acre, Linn.*Pungent Sedum.*

The coast sandhills, and on rocks and banks under sea influence. Inland, generally upon walls and other artificial constructions. *P.* Summer. Native in littoral Cheshire. Rare.

1. Hedge-banks about Marple; *Gr. Flo.* On the boundary wall of the canal towing-path in several places between Furness Vale and Marple, that is to say, it extends at intervals for a distance of four miles, and is thoroughly naturalised: I did not see it upon wild "live" rocks, or even banks, or in any wild part of the district; Wall of a garden ascending from the canal to Marple Village; Walls and roofs in Taxal Village; *Webb.*
2. Hedge-banks at ("near," *Buxt. G.*) Bowdon and Altrincham, plentiful; *Wood, Flo.*
3. On the rocky banks of the lane between Manley and the Lower Hall, with *Plantago Coronopus*, native; *Brown.* Hedge-bank, Tarporley road, near Cuddington Station; Booth's smithy, N. of Little Budworth—a good station.
4. Abundant on the sandhills on the coast where there is any show of vegetation or permanency in the surface: common on banks and walls throughout North Wirral; The Cop, Chester; Gayton Lane.
7. On a cottage roof near Peover Brook, in Plumbley; On some others near Plumbley Toll-bar: planted in both cases.

S. reflexum, Linn.*Crooked-leaved Sedum.*

Walls, cottage-roofs, and dry banks, being of garden origin; "rarely upon rocks," *Syme. P. Summer.* Not native. Rare.

1. Common on Kerridge Hill amongst rocks; Also in a dry hedge-bank at Chelford, a little way past the Station towards Macclesfield: a strange locality: in the former station I think certainly native, in the latter decidedly suspicious; *Holland.*
3. On a wall at Netherton; (*Robinson*), *Flo. Liv.* High roadside bank, Portal Lodge, Tarporley; Beeston Castle.
4. Formerly near Tranmere and Claughton; *Hall, Flo.* I have seen it on several cottage roofs in the old Wirral villages, but really such localities are not worth recording; *Webb.*
5. Rocky banks, Saughton. [Overton Scar, perfectly naturalised if not native: *var. albescens*, I think; *A. H. Wolley Dod.*]

SEMPERVIVUM, Linn.**S. tectorum, Linn.***Common House-leek.*

Does not show any tendency to stray away from the walls and roofs of cottages and of outbuildings, where it has been planted either for remedial purposes or from superstition. *P. Summer.* Not native; always originally planted. Fairly distributed. Personal records in 2, 4, 7; second-hand records in [5].

COTYLEDON, Linn.**C. Umbilicus, Linn.***Common Navel-wort.*

Upon weather-worn sandstone rocks, the interstices of loosely-constructed walls, and hedge-banks built up with stone blocks. It also grows on dry banks near places where it is otherwise well-established. *P. June to August.* Ascends to 300 feet. Native. Rare.

3. In a loose stone wall on the road between Tarporley and Tilston, say half a mile out of Tarporley; In great profusion in the stone walls of the lane-sides all the way from Beeston Station round below the range to Bickerton; Common about Beeston Castle.
4. On the walls of Wallasey Churchyard; and in lanes about Poulton; and between Egremont and New Brighton; *Hall, Flo.* About Upper Tranmere, *Dick. Flo.* Plentiful and fine on the rocks and walls about Noctorum Farm; (*Webb*), *Flo. Liv.* On an old wall at Ness; (*Brown*), *App. Flo. Liv.* Walls and rocky sides of the lane entering Storeton Village from the south; *Brown.* In the district about Storeton and Heswell; *Bickham.* Hedge-cop in the lane between Gayton and the Windmill; (*Webb*), *Sec. App. Flo. Liv.*
5. The walls about Carden; Banks and walls by the side of the road from Barnhill Bank to Broxton Hall; *Webb.* Abundant on walls in lane leading from the Farndon road, near Shaw Green Pit, towards Carden Hall; *Brown.* Lane-sides W. of Bickerton Hill; Heron Bridge, Chester; Saughton; Burwardsley Hill. [Edge; Roadside about Gallantry Bank; Overton Scar; Carden Cliff, and rocks thereabout; *A. H. Wolley Dod.*]

SAXIFRAGEÆ.

SAXIFRAGA, Linn.**S. umbrosa, Linn.***London Pride.*

Planted—spreading in plantations and becoming weed-like.

1. Taxal Wood, in one place only, and there abundant; *Astley List.***S. Hirculus, Linn.***Marsh Saxifrage.*Wet and swampy moors. *P.* Autumn. Native. Extinct since about 1830 or 1840.

Now extinct. In Knutsford Moor on a shaking moss, in company with *Andromeda*, *Melampyrum pratense*, and *Carex limosa, stellulata*, and *curta*. I give these to show the character of the station, but the plant was lost to the county before my time. I have a specimen, given me by Mr. Sidebotham, gathered there in 1824 by Mr. G. W. Wilson.

S. aizoides, Linn.*Yellow Saxifrage.*

Error. Misnomer.

3. On Beeston Castle; *B. G.*5. On a high hill in Wirswall town, near Malpas; *Ib.*

The habitat for this on Beeston Castle Rock I am satisfied is wrong, having several times searched there; nor is the spot at all favourable; (*Bowman*), *N. B. G.*

S. tridactylites, Linn.*Rue-leaved Saxifrage.*

Upon the coast sandhills, and on walls in villages near to the sea. *A.* Spring and early Summer. Ascends to 200 feet. Native. Common in part of Wirral.

4. Hoylake; Old walls at Bidston and Wallasey; *Dick. Flo.* Walls at Prenton, abundantly; (*Fisher and Marrat*), *App. Flo. Liv.* Grows in profusion, but very diminutive, upon the sandhills in many spots, particularly on the grassy flats about New Brighton, and from the "Noses" to Wallasey.

S. granulata, Linn.*Meadow Saxifrage.*

In meadows, by brook-sides, and in woods. *P.* May, June. Native. Rather local.

1. Banks of the Goyt, sparingly; *Gr. Flo.* In a field at Hazel Grove, near Norbury Church; (*I. Williamson*), *Gr. Flo.*
2. On the banks of the Mersey, near Jackson's Boat; *Wood, Flo.* Damp meadow by River Bollin; *Hunt, sp.* Woods on the banks of the Bollin, between Ashley and Cotterill; Plentiful about Mobberley; Ringway; *Gr. Flo.* In many places: Peover Brook under Lennards Farm; Waterless Brook, in the Round Wood; and again opposite the White Lodges, Tabley Park; Holford, &c.
5. I was shown the root-leaves of this in a field about two-thirds of a mile south of Boughton Heath, where it had been discovered earlier in the year by Mr. Cross.
7. The whole course of Peover Eye, and from the Mill-dam, Lower Peover, to Holford.

CHRYSOSPLENIUM, Linn.**C. oppositifolium, Linn.***Common Golden Saxifrage.*

In damp woods and cloughs; by stream-sides, on wet rocks, and in other moist and generally shady situations. *P.* Spring and early Summer. Ascends to 1500 feet in Goyts Clough. Native. Generally distributed. Personal records in 1, 2; second-hand records in 1, 2, 4, [5], 7.

C. alternifolium, Linn.*Alternate-leaved Golden Saxifrage.*

Moist shady places in woods and cloughs. *P.* April, May. Native. Rare.

2. Bog near Ashley Mill, May 1864; *Hunt, sp.* In a dingle at Ashley Mill, 1871; *Sidebotham, sp.* In Cotterill Wood, abundantly; *Wood, Flo.* Dells at Mobberley; Woods below Bowdon Old Church; *Gr. Flo.*

5. [Rare: Duckington Brook, frequent; *A. H. Wolley Dod.*]

If really so frequent as the Manchester Floras represent, it must stop short very suddenly, for I have never found it in my home district, though I have searched repeatedly for it, and know the species well in cultivation. Of course it may occur with me; but it is a rarity if it does, I can certify.

PARNASSIA, Linn.**P. palustris, Linn.***Marsh Parnassia.*

Moist grassy valleys amongst the coast sandhills; moory elevated pastures, and upon the low moss-lands. *P.* Autumn. Ascends to 1100 feet above Disley. Native. Rare.

1. Abundant in a field between two roads at Spons, the high hill near the farther entrance to Lyme Park, visible from Hazel Grove, and looking over Kettleshaw; (*I. Williamson*), *Gr. Flo.* Second pasture through which passes the pathway from "Long Side" road to the moorland, starting from the gate close to Badger Clough, near Disley; Also in the enclosure next south of the pasture referred to, particularly amongst the furze; *Webb.*
2. Seaman's Moss Pits, 1862; *Hunt, sp.* Hale Moss, near Altrincham; *Wood, Flo.*, and *Hunt, sp.*, 1857. A patch of about a rood at the S.E. corner of Pickmere Mere: I hope that this may escape extermination by any whom this record may direct.
4. New Brighton, 1837; *Watson.* In moist grassy hollows amongst the sandhills from New Brighton to Leasowe, but not very plentiful; About Leasowe it occurs in greater quantity, extending into the meadows south of the embankment.
5. [Very rare: Duckington Dingle; Between Edge and Malpas Station: now extinct from improved drainage; *A. H. Wolley Dod.*]

Is a great rarity in the plain of Cheshire.

In the locality transferred from *Gr. Flo.*, "Spons" should probably be Sponds, and Kettlesham, Kettleshulme; but even with this alteration, the record is the perfection of confusion for directing purposes.

UMBELLIFERÆ.

HYDROCOTYLE, *Linn.***H. vulgaris, *Linn.****Marsh Pennywort.*

In bogs, marshes, by edges of ponds and sides of ditches. *P.* Summer. Ascends to 800 feet. Native. Generally distributed. Personal records in 1, 2, 6, 7; second-hand records in 1, 2, 3, 4, 5, 6, 7.

SANICULA, *Linn.***S. europæa, *Linn.****Wood Sanicle.*

In woods, cloughs, and dells. *P.* Summer. Ascends to 800 feet. Native. Rather local.

1. Woods in Reddish Vale; Fog-brook Clough, near Marple; Many other woods in Marple Vale; *Buxt. G.* Gatley Carrs; Bramhall; *Gr. Flo.* Frequent and general in the various woods and cloughs of the Disley district; In the woods on either side of the semi-private road between Goyts Bridge and the Powder Mills; Large wood by the roadside between Dan Bank Toll-gate and Rose Hill Railway Station; *Webb.*
2. Ashley Woods, near Bowdon; Cotterill Clough; *Gr. Flo.*, and (for the former) *Hunt, sp.* Common in my home district: e.g. Tabley Garden Wood and the Dog Kennel Wood; Becket's Wood, Aston.
3. Ashton Hey.
4. Eastham Wood; Bromborough Woods; *Dick. Flo.* A few plants may still be found in the remains of Gilbrook, 1873; *Webb.* In a plantation south of Raby; *Lewis, sp.*
5. Dee Banks, opposite Heron Bridge, above Chester. [Edge Wood; Duckington Dingle; Overton Scar: rather uncommon; *A. H. Wolley Dod.*]

ERYNGIUM, *Linn.***E. maritimum.***Sea-Holly.*

On the coast sandhills. *P.* July, August. Native. Local on the coast.

4. Sparingly scattered over the range of sandhills from New Brighton to Hoylake; From Hilbre Point to the lane leading to West Kirby village it is more plentiful; and again occurs on the shore-margin of the Heath below Heswell; As also on a sandy tract between "Old Quay" and the Colliery south of Parkgate. This is a digest of the information I have been able to obtain from various sources, and accords with my own observations.

CICUTA, Linn.

C. virosa, Linn.

Water-Hemlock.

The margins of meres and in old pits. P. July, August. Native.
Unequal distribution. Local. Plain.

1. Between Capesthorpe and Congleton; *Gr. Flo.* Pits near the Little Moor, a mile from Stockport; (*G. Holme*), *B. G.*
2. In the vicinity of Rostherne; (*Wood*), *Phyt. i.* (1842), p. 280. About old pits and pitsteads near Bucklow Hill. (*Qy.* same locality as the one above?) Upon Knutsford Moor; *Burt. G.* Plentiful in pits at Mere; *Gr. Flo.* Mobberley, 1869; *Hunt, sp.* The stations in my home district are numerous. Besides all the meres, it is to be found in at least one pit out of ten: I give a few stations only: Tabley Lake, near Botany Bay; The pits in Burghs Meadow, Tabley Park; Pickmere Mere, W. end; Budworth Mere; Rostherne; Knutsford Moor; &c.
3. Pond two miles from Northwich on the road to Chester, (*Rev. W. Wood*), *With. Arr.* ed. ii. (1787). Pit in a pasture called "Crabtree Loon" at Little Barrow: this is Mr. Bennett's locality, wrongly described in *Flo. Liv.* as at Ellesmere: confirmed 1873; *Webb, sp.* Mr. T. Gibson has in his herbarium a fine specimen from the neighbourhood of Hartford: he could not give me the exact locality; *Brown.* (The old locality from Withering must be near Hartford.) Near the Fish Pool, Oakmere, 1871; *Bickham.* Margin of a small pit in a short lane, which appears to join no road, having a footpath at both ends, about one-third of the way between Mouldsworth and Manley Lane, Manley; *Brown.* By Little Budworth Mere; Plentiful in a large field-pit south of Beeston village.
5. Shallow pit in field a short distance beyond the canal towards Stapleford; *Brown.* [Very local, but abundant in two or three ponds between Whitney Lane and Simmond's Green; Pond near junction of Whitchurch and Chester railway with main line; *A. H. Wolley Dod.*]
6. Marbury Small Mere; *Brown.* By the edge of the canal a few yards to the right, after crossing the bridge at Wrenbury Wharf from Wrenbury; *Webb, sp.* In two adjoining circular pits in the middle of a field to the N. side of the London and North-Western railway, somewhat over two miles on the Crewe side of Calveley Station, near the word "Chester," where Chester and Crewe Railway is written on the Ordnance Map, and about a mile N.E. of where the railway crosses the canal.
7. Ponds between Congleton and Brereton; *E. S. Wilson, fid Sidebotham MSS.* A pit on Byley Brows close to the Middlewich road; Another near Earnshaw Hall, nearer Rudheath, visible from the road; A pit by the roadside between Winnington Wood and Wincham.

K

APIUM, Linn.**A. graveolens, Linn.***Wild Celery.*

Near the coast where the ground is marshy or muddy. *B.* July, August. Native. Common coastwards. Shore chiefly.

2. River-banks at Craybrow, Statham, near Lymm; (*Mr. Brownell*), *Gr. Flo.* By Kekewick Brook, near the canal at Moss-side; Richmond Marsh, extending to the extreme east.
3. Ditches off the Rake Lane, Helsby Station.
4. Wallasey and Bromborough Pool; Bidston Marsh; *Hall, Flo.* Leasowe; *Dick, Flo.* It grew in 1870 by the junction of the lanes in the Hill Houses road, West Kirby, under a hedge, but the hedge being now replaced by a stone wall, I presume the plant is destroyed; *Webb.* In the marsh south of Burton Point; *Webb and J. L. W.* I have seen it on mud and marsh flats from above Bromborough to south of Burton Point, at all the places enumerated in the Liverpool Floras; *Webb.* Opposite to the Candle Works at Bromborough Pool, in a small dingle; Dee Cop, &c., Chester; Lache Eyes trenches.
5. In a pit alongside the road at Blacon Point; *Newbould and Webb.*

HELOSCIADIUM, Koch.**H. nodiflorum, Koch.***Procumbent Marshwort.*

In wet ditches, at edges of pits and canals, and in marshy places. *P.* July, August. Native. Generally distributed. Personal records in 2, 3, 4, 6, 7; Second-hand records in 1, 2, 4, 5, 6, 7.

The Bidston Marsh plant inserted in *Dick, Flo.* as *H. repens* is probably the small form of *H. nodiflorum*, and not the plant of Koch. "*H. repens* of most English authors is simply a weak prostrate state of *H. nodiflorum*;" *Watson, MS. notes.*

[*Var. ocreatum, Bab.*

5. Pond near Lowercross Farm; Pond at Duckington; *A. H. Wolley Dod.*]

H. inundatum, Koch.*Least Marshwort.*

In shallow pits, &c., and often on the swampy ground or half-dried mud at edge of same; also in trenches on mossland. *P.* Summer. Ascends to 300 feet. Native. Fairly general.

1. Pits on and near Lindow Common; *Buxt. G.* Pit in field opposite to the road entrance to "Yew-Tree," half a mile N.E. of Woodford; *Webb, sp.* Ditch in Spath Lane, east of Handforth.
2. Pits on Baguley Moor; Old pits near Bowden; *Buxt. G.* Rostherne Mere; *Gr. Flo.* Pit and ditches near Rostherne Mere; *Hunt, sp.*
3. Ditch near Frodsham Score; (*Robinson*), *Flo. Liv.* In several pits between Elton and Thornton-in-the-Moors; *Brown.*

Field-pit near Dunham, towards Peek Mill; Hatchmere; Fish Pool, Delamere.

4. Eastham, *Fisher*; West Kirby, *Mrs. S. Boulton*; Hoylake, *Miss Grundy*; Pits in the brickfields behind Claughton Village, sparingly; Pit at the SW. corner of Oxtou Heath, (*Webb*), *Flo. Liv.* Pit by the footpath from Bromborough Station towards the village; (*Brown*), *App. Flo. Liv.* A small pit east side of Heswell Shore Heath; Dried-up pit (1873) in the lane south of Gayton; *Webb*. Pits about Bromborough; Several old pits between Ledsham and Willaston; Pit in a field between Little Sutton and Overpool before reaching the stream; *Brown*.
5. Pool-side at Little Heath near Christleton; By Saltney road, Chester: Watercourse at extreme N.E. corner of the Lache Eyes, near Chester: a remarkably large form; Waverton Quarry; Saughton. [Edge Park; *A. H. Wolley Dod*.]
7. In a short shaded trench which unites the large pit with a smaller on Peover Heath; Copiously in a trench transverse to the main one on Brookhouse Moss.

SISON, Linn.

S. Amomum, Linn.

Hedge Honewort.

Roadside and field ditch-bottoms, and hedge-banks. *P.* August, September. Native. Local.

3. Hedge-bottom on the right-hand side shortly before reaching Horns Mill from Helsby Station; Frequent about Hapsford and Dunham; *Newbould and Webb*. In "Manley Lane," near Dunham; *Webb*. A mile S. of Spurstow.
4. Backford Heath; (*Okell*), *Lys. M. Brit.* (1810). Plentiful in hedge-banks about Upton, and abundant by the side of a lane leading from West Kirby to Newton-cum-Larton; *W. Skellon*. Plentiful in hedge-banks between West Kirby and Frankby; and between West Kirby and Soughall Massie; *Webb*, *Mrs. S. Boulton*, &c. Near Queen's Ferry; Near Stoke; *J. Skillito*. By the bridge over Capenhurst Station; and in the lane between Capenhurst and Ledsham; The lane below Shotwick Church; The lanes on either side the railway between Mollington Station and the next bridge Birkenhead way; *Webb*. At frequent intervals on the hedge-banks between Ledsham and Capenhurst; and between the latter and Great Mollington; *Brown*. A few plants by the roadside just after crossing the canal at Stoke towards Picton; (*Webb and Brown*), *Sec. App. Flo. Liv.* A plant or two by the roadside, about half a mile from Queen's Ferry towards Shotwick; Blacon Point.
5. Poulton Lane, Pulford, near Eaton; *J. E. Bowman*, *sp.* Roadside between Ellesmere and Chester; (*J. E. Bowman*), *N. B. G.* The wooded banks at Blacon Point; Hedge-bottoms between Tattenhall Station and Gates Heath;

In Shay Field Lane and the field above Lea Hall Farm: Also near Aldford, and in Mr. Bowman's locality mentioned above; *Newbould and Webb*. Between Stretton and Crewe Hock; Also between Farndon and Barton; *Brown*. Within fifty yards of Stretton Mill; Hedge bottoms by roadside between Barton and Coddington; *Webb*. Near Tattenhall Road Station; *Lewis*. Rather plentiful on the Wrexham road for the first mile or so after Pulford Bridge approaching Chester, and a plant or two may be found all the way to Chester at intervals; I also saw some plants in Eaton Park Woods on the Broughton side; Ridges Lane, Rowton; Towards Saughton; Common about Newton; Lache Lane, &c., Chester. [Rather rare in hedges about Grafton, Horton, and Aldersey; Hobb Hill; *A. H. Wolley Dod*.]

Sison ascends no higher in West England than our province. Consequently, for the present, we may consider the West Kirby station as the northernmost on this side Britain. The provinces of Mersey, S.E. York and S.W. York stretch across England in a continuous chain, and limit this species to the north.

ÆGOPodium, Linn.

Æ. Podagraria, Linn.

Common Goutweed.

Damp hedge-banks, and in cultivated ground about houses and gardens, edges of woods and river-banks. *P.* Summer. Native or denizen. Generally distributed. Personal records in 1, 2, 3, 4, 7. Second-hand records in 1, 2, 4, 5, 6, 7.

A curious parallelism exists between this and *Chelidonium* in the way it clings to houses and horticulture; but I suppose there can be no question about the nativity of either.

Carum Carui, Linn.

Common Caraway.

Casual. Native of Europe.

"Occasionally in cultivated fields, from seed undesignedly brought thither;" *Gr. Flo.*

BUNium, Linn.

B. flexuosum, With.

Common Earth-nut.

In pastures, meadows, and open places in woods. *P.* May, June. Native. Generally distributed. Personal records in 2, 3, 5, 7; Second-hand records in 1, 2, 4, 5.

PIMPINELLA, Linn.

P. Saxifraga, Linn.

Common Burnet-Saxifrage.

In pastures; on banks; amongst scrubby vegetation by lane-sides, and near the coast. *P.* July to September. Ascends to 300 feet. Native. Rather local.

1. Plentiful near Arden Hall; *Gr. Flo.* Hedge-banks by the roadside between Doghill Green and the Manchester and Macclesfield Railway; High roadside bank between Capes-thorne Post-Office and the turn to Siddington; *Webb*.

2. The Manchester Floras enter this as a "common" plant, and no localities are given beyond the one quoted above. Rostherne road, near Bowdon; *Hunt, sp.* Holford Mill Meadows; Slopes in Lennards Farm, half a mile from the preceding; In the lane between the railway and Trout Hall, where five or six forms (*P. serrata*, *Huds.*, amongst others) may be gathered; Burley-hurst Wood, sides of the lane.
3. Apparently scarce at Frodsham; (*Robinson*), *Flo. Liv.* Great Barrow.
4. Amongst gorse-bushes about Bidston Lighthouse; On a bank between Seacombe and Egremont, by side of the Mersey; *Hall, Flo.* Plentiful amongst gorse-bushes between New Brighton and Wallasey; *Hall, Flo.*: quoted for *P. magna*, and so reproduced in *Dick. Flo.* The *Flo. Liv.* generalises as "frequent," and does not give localities. "The Scrub" by the Dee shore, between Gayton Cottage and Heswell Heath: this is frequently a large-growing and broad-leaved form; *Webb.* Margin of Bromborough Pool.
5. Near Tattenhall Road Station; *Lewis.* Dee Cop, Chester; Saughton.
6. Hedge-bank near Basford Station; *Newbould and Webb.*

[*Var. dissecta*, *With.*

5. Near Malpas Station; *A. H. Wolley Dod.*]

P. magna, *Linn.*

Greater Burnet-Saxifrage.

Shady hedge-banks. *P.* Summer. Native. Rare. Plain chiefly.

1. Woods and fields belonging to Staley Hall; (*Mr. Bradbury*), *B. G.* The place does not look likely, and we saw there *P. Saxifraga*; *Baker and Webb.*
2. Upon a piece of waste ground by the Duke of Bridgewater's Canal, about a mile and a half beyond Lymm; *Burt. G.* Long Lane, between Bowdon and Hale; *Gr. Fl.* Is quite as common as, perhaps more so than *P. Saxifraga* in my home district: I name two points at which the plant may be readily procured any year, viz., In the field-hedges between the Tabley Red Lodges and Tabley Hill; Again, very fine in the fields between Marston Hall and Marbury Wood.
3. Between Cattenhall and Acton Viaduct; *Brown.* At intervals on the hedge-banks on both sides of the road from the bridge over Alvanley Station to the Horns Mill; *Newbould and Webb, sp.* Roadside near Hartford; *Brown.* Hedge-bank, the field-route between Over and Bradford Mill; In the vale below Darnhall, a mile and a half south of Over; (*Anon.*) *Phyt. N.S.* iii. p. 249. Frodsham, July 1868; (*Robinson, sp.*), *Hunt, Hb.*
4. In the neighbourhood of Parkgate; (*J. L. W.*), *App. Flo. Liv.* A more definite record would be about a mile and a half north of Parkgate, not far from where *Geranium sanguineum* is first seen.
6. [Wybunbury road, Nantwich; *A. H. Wolley Dod.*]

SIUM, Linn.**S. angustifolium, Linn.***Common Water-Parsnip.*

In pits, on mosses, and at the edges of meres; also in ditches and trench-drains. *P.* July, August. Native. Not uncommon.

2. Seaman's Moss Pits; Timperley; *Hunt, sp.* In ponds and ditches near Altrincham and Bowdon, frequent; *Wood, Flo.* In an old pit at Timperley Bridge; and in a lane leading from Timperley Bridge to the Knutsford high-road; *Buxt. G.* Booth Mill-dam, and near Knutsford; *Buxt. G. ed. ii.* Pond-sides below Bowdon old Church; Ditches near Baguley old Hall; Knutsford Moor; (*Hunt*), *Gr. Flo.* Ditch in Moss Lane, Moore; Pit north of Lennards; Another by the laneside, half a mile after Lennards Farm; Pickmere Mere, abundant; &c.
3. Abundant in pit by the roadside between Elton and Elton Green; *Brown.* The trenches on Helsby and Frodsham marshes, abundant; Ditches, Hapsford Moor
4. Entered as a "frequent" plant in the Liverpool Floras, and no localities given. As far as my memory serves, this is a local plant on the Cheshire side of Mersey, and I do not call to mind any locality; *Webb.* Finchett's Gutter, Blacon Point.
5. Pit in lane between Stretton village and Wetrains Green: noticed in several other places; *Brown.* Guilden Sutton, E.; River Meadow, Bridge Trafford; The Lache Eyes.
6. In a pit near Church Minshull Lock; *Jebb, sp.* Near Wybunbury; *Webb.*

A frequent plant in the lowlands of 3 and 5.

S. latifolium, Linn.*Broad-leaved Water-Parsnip.*

Is included by Mr. Robinson, without further particulars, in his list of Frodsham plants, published in *Phyt. N.S. iii.* p. 194; but as the record is not repeated in *Flo. Liv.*, I presume he discovered some error.

BUPLEURUM, Linn.**B. rotundifolium, Linn.***Round-leaved Hare's-ear.*

Casual.

7. A seedling picked on some rubbish-covered ground on Mow Cop in 1873; *Webb, sp.*

B. tenuissimum, Linn.*Slender Hare's-ear.*

On marshy ground liable to be overflowed at high tides. *A.* Summer. Native. Rare. Shore.

4. Banks of the Dee below Chester; (*James Price and J. E. Bowman*), *Hook. Br. Fl.* ed. iv. (1838). Banks of the Dee below Queen's Ferry; (*Dr. Wood*), *Dick. Flo.* (*Qy.* Is not this record founded upon that first named, and the same with regard to *Lepidium Draba* from the same authority? Queen's Ferry does not lie in Cheshire.) By Bromborough Pool, moderately; (*Miss Grundy*), *Flo. Liv.* Supposed to have been lost from this locality, but found there in fair quantity in 1874 by *J. W. Burton and Lewis, sps.*

CENANTHE, Linn.**C. fistulosa, Linn.***Water Dropwort.*

In pits, ditches, meadow-borders of canals, and in boggy places. *P.* Summer. Ascends to 250 feet. Native. Thin, but general distribution.

2. Booth Mill-dam, near Knutsford, plentiful; Abundant on Stretton Moss; *Bux. G.* ed. ii. In the turnpike-road ditch near Lower Tabley School; A pit just where the "w." of Sudlow Lane comes on the Ordnance Map, plentiful; Another pit in Tabley Park, between Serpentine and Sudlow Farm; A small pit in Aston, near the lane on Darlington's Farm.
3. Hatchmere; *Melvil.* Pit in the field next to "Crabtree Loon," at Little Barrow; *Webb.* Frodsham Meadows, in the marsh trenches; Field-pit between Dunham and Peek Mill; Ditch, the Rake Lane, Helsby Station; Oulton Mill Pool; Spurstow, S.; Gowy banks below Little Barrow.
4. Entered as a "common" plant in the Liverpool Floras, and no localities given. Near Bromborough; *Brown.* Pits in the fields east of Cloughton village; *Webb.* In a canal-side splash close to Moston Bridge; Near Parkgate; Finchett's Gutter, Chester; Thornton Hough, S.W.
5. Near Golbourne Bridge, north of Handley; Pits near Tattenhall Road Station, *Lewis.* Pit in a field adjoining the road between Farndon and Morris Lake Bridge; Margin of pit between the Station and Waverton village, and in several other pits in the neighbourhood; *Brown.* Gorstella, W.; Waverton Quarry; Little Heath Pond and Canal-side, Christleton. [Very common; *A. H. Wolley Dod.*]
6. Abundant on the Canal-bank, crossing from Nantwich to Ravensmoor; *Brown.* Pits on the portion of Beam Heath, Nantwich, enclosed for a Park; *Webb.*
7. Abundant in the Canal between Middlewich and the Chester and Crewe Railway; *Jebb, sp.*

The headquarters seem to fall from N.E. to S.E. of Chester, where most or many of the pits with which that district is honey-combed on the Ordnance Map would supply a record; but it seems thinly but evenly distributed over the whole plain of the county, both littoral and inland.

C. Lachenalii, Gmel.*Marsh Dropwort.*

By the sides of brackish ditches, and in marshy ground and damp pastures near to the coast. *P.* July, August. Native. Not uncommon in the littoral pastures. Shore.

2. Near the outflow of Kekewick Brook, at extreme west of Richmond Marsh.
3. Plentiful in the trenches on Frodsham Marsh; *e.g.* about Moor-ditch Lane, and all along to Helsby; Rake Lane, near Helsby Station.

4. Wallasey Pool, very abundant; *Dick. Flo.* The inland side of the marsh that lies south of Burton Point; (*Webb and J. L. W.*). With *Apium* in some ditches leading from a little dam by the Leasowe road, near Wallasey, back towards Wallasey Pool; In the grass adjoining Bromborough Pool, near the Candle Works and elsewhere.

Æ. crocata, Linn.

Hemlock Dropwort.

In ditches and watery places. *P.* Summer. Native. Rare, except coastwards. Chiefly shore and Broxton.

2. Ditch-side between Chester road and Rostherne Mere, beyond the Toll-bar, 1864; Near Rostherne Mere, 1868; *Hunt, sps.* In a ditch by the left-hand side of the road, about a mile short (N.) of Bucklow Hill; *Buxt. G.* Ditches by the roadside between Bowdon and Rostherne, but now nearly destroyed; Between Heatley and Lymm, near Reddish; *Gr. Flo.* Harper's Bank Wood, Rostherne Mere, sparingly; Ditch, south border of Norton Marsh; Below Rock Savage, towards the Canal; Frequent by the Mersey, S. and W. of Warrington.
3. Moors Brook, near the footpath, about halfway between Manley and Alvanley; *Brown.* Between Stanford Mill and the Tarvin road.
4. Entered as "common" in the Liverpool Floras, and no localities specified. In the ditches by the field-pathway from Noctorum to Woodchurch; *Webb.* Common in Wirral, as far as my experience serves, *e.g.* Very fine in a field-ditch where it ends at the coast, say three-quarters of a mile north of Parkgate; Dee-side; The Cop, Chester; Near Blacon Point.
5. Near Golbourne Bridge, north of Handley; south side of the Dee, just below Chester. *Gorstella, N.*; Riverside, Chester. [Very common; *A. H. Wolley Dod.*]

Rather emphatically recorded in this district by the poisoning of a number of Chester workhouse boys about 1871, and the death of several, who had gathered it for the wild celery on the Rood Eye.

The absence of this species from my home district is characteristic.

Æ. Phellandrium, Lam.

Fine-leaved Dropwort.

In pits, and marshy margins of meres. *B.* or *P.* June to August. Native. Thin but fairly general distribution.

2. Near Timperley; *Wood, Flo.* By the side of a pit near Bucklow Hill; *Buxt. G.* Old pitsteads at Mobberley; *Hunt, sp.* Not at all uncommon in my home district, and in a good many pits, *e.g.* The pit between Serpentine and Sudlow Farm, with *Æ. fistulosa*; The pit near Botany Bay, Tabley Park, with *Cicuta virosa*; Several pits in the Rinks, (see Ordnance Map); Swamp at the west end of Pickmere Mere, with *Pedicularis palustris*.

3. Boggy sides of a pool of water, Woodhouse, plentiful (*Robinson*), *Flo. Liv.* and *sp.* in *Hunt, Hb.* Abundant in several pits between Elton Green and Thornton-in-the-Moors; *Brown*. A field-pit near Tarvin, on the Tarporley road; Bridge Trafford, pit between Manley Lane and railway bridge; Pits on waste ground at Bulkeley.
4. Bromborough; (*W. H. Hatcher*), *Flo. Liv.* Pit in a field above the Dee, about opposite to Thurstaston; (*Webb*), *App. Flo. Liv.* In ditch in the first lane on the right from Overpool going southwards in a line with the railway; Little Sutton Station; *Brown*.
5. Ditches, "The Meadows," Chester. [Rare in several ponds near Chorlton; Rather common about Edge, Hampton and Horton; *A. H. Wolley Dod*.]
6. Alsager; *Garner, N. H. Staff.* Pit at Wirswall; *Brown*.
7. Pit on the Crown Farm, Lower Peover, near the highroad, and many other pits thereabout.

I have seen this growing in a pit so overshadowed with trees that besides it, *Lemna trisulca* and *Ceratophyllum*, nothing in the London Catalogue was produced.

ÆTHUSA, Linn.

Æ. Cynapium, Linn.

Fool's Parsley.

A weed in cultivated ground. *A.* July, August. Native or colonist. Rather common?

1. "Very common," according to the Manchester Floras: one says of it—"unhappily abundant everywhere." By no means common, and not seen at all in the higher grounds east and south of Disley; *Webb*.
2. Bowdon; *Hunt, sp.* Rather frequent in my home district, e.g. Tabley Kitchen Garden, and in a garden and in the field (then stubble) adjoining the south end of "Milley Lane," Pickmere.
4. The Liverpool Floras enter this as a "common" plant, and do not give any localities. Not uncommon through Wirral; *Webb*. Parkgate; Hoylake; Wallasey.
5. Roadside, Tattenhall; *Lewis, sp.*
7. Lower Peover.

Foeniculum vulgare, Gaert.

Common Fennel.

Garden-escape casual.

4. "Is occasionally met with on the sandhills on both sides of the Mersey;" *Flo. Liv.*

Ammi majus, Linn.

Ballast casual.

4. Birkenhead Docks, 1864; (*Gibson*), *Notabilia*.

SILAUS, Besser.

S. pratensis, Bess.

Meadow Sulphur-Wort.

Pastures, meadows, and by roadsides in heavy-land districts. *P.* July, August. Native. Rare or overlooked. Shore chiefly.

3. Field, Frodsham marshes; (*Robinson*), *Flo. Liv.* In Rake

Lane, near Dunham, between the right-angled turn and the cottage at the corner of Hob Lane; *Newbould and Webb*. Abundant in the low fields between Mouldsworth and Manley; *Brown*.

4. Plentiful among the gorse bushes by the side of Wallasey Pool; Between Seacombe and Poulton; *Hall, Flo.* Sutton; (*R. Slack*), *Hall, Flo.* Fields about Hoylake, abundant; (*W. Skellon*), *Dick, Flo.* West Kirby, and frequent through the whole of the north part of Wirral; Abundant about Bromborough; *Flo. Liv.* and *Webb*. Fields north of Parkgate; *App. Flo. Liv.* Field by the side of the footpath from Willaston towards Ness; (*Brown*), *App. Flo. Liv.* Fields and hedge-banks between Capenhurst and Great Mollington; In fields between Ledsham and Willaston; *Brown*. Oxtun Heath; (*Lewis*), *Sec. App. Flo. Liv.* Pasture field on the right-hand side at Great Meols; By the footpath between King's Wood Lane and Great Mollington; Roadside, Gayton Mill, S.E.
5. In the first field up the Gowry from the lane east from Guilden Sutton; Tattenhall, N.W.; Near the railway, east from Saltney.
6. In a field near to the Old Hall, two miles north of Audlem; Fine by the pathway from College Fields to the county boundary; *Webb, sp.*

ANGELICA, Linn.

A. sylvestris, Linn.

Wild Angelica.

In open swampy woods. By the sides of streams, and in a variety of marshy places. *P.* July, August. Native. Generally distributed. Personal records in 1, 2, 3, 6, 7; second-hand records in 1, 2, 4, 5, 6, 7.

Pucedanum Ostruthium, Koch.

Stray from cultivation. Once a favourite cow-medicine.

1. Near J. Oldham's garden at Hyde, probably an outcast; *B. G.*

PASTINACA, Linn.

P. sativa, Linn.

Wild Parsnip.

The coast sandhills, and sandy ground near to the sea. *A.* or *B.* July, August. Native, or denizen on the coast. *Rare.* Shore.

2. A single plant in a cornfield a little south of Hale Barns, 1862; (*Rogers*), *Phyt.* N.S. vi. p. 250. Timperley, 1860: "possibly an escape from cultivation;" *Hunt, sp.*
3. On the bank just outside Delamere Station.
4. Hoylake (*R. Tudor*), *Hall, Flo.* Near Parkgate; (*Miss E. Potts*), *ib.* Given as "frequent" in *Flo. Liv.* I have seen it on the cops of fields and sandy grassy wastes from Leasowe to West Kirby; *Webb*. A field-side a quarter of a mile out of Hoylake towards Moreton; Plentiful about Hoylake; A cornfield border close to Wallasey Pool.
5. Roadside bank near Aldford, sparingly.

HERACLEUM, Linn.**H. Spondylium, Linn.***Common Hogweed.*

Borders of fields; in meadows; hedges; and open places in woods.
P. June to August. Native. Generally distributed. Personal
 records in 1, 2, 3, 4, 6, 7; second-hand records in 1, 2, 4, 5, 6, 7.

DAUCUS, Linn.**D. Carota, Linn.***Wild Carrot.*

In hilly barren pastures; waste ground by field and roadsides; on railway embankments and slopes, and poor land near to the coast; also in cultivated fields. *B.* July, August. Native. Not common inland.

1. No localities are mentioned in the three Manchester Floras: in each "cultivated fields" is given as a place of growth: the plant is entered as "frequent." The railway embankment at High Lane Station is the only place where I saw it in N.E. Cheshire; *Webb*.
2. Very common on some of the oldest pastures on clay land in Mobberley, and chiefly where the land is hilly: as, for instance, the Brows overlooking the Bollin, and on Brows overlooking Marthall Brook; *Holland*. Here and there as a stray from cultivation in my home district, *e.g.* on Mr. Darlington's farm at Pickmere.
4. No localities mentioned in the Liverpool Floras, it being entered as a "common" plant. The third field north of Parkgate onwards to the Heath below Heswell, and continues farther along on the clay banks under Thurstaston: not common southwards from Parkgate; *Webb*. Bromborough Pool, &c.
5. Not common; *Webb*.
6. Noted for this Hundred, but the station forgotten.
7. Common about the Limekiln Farm near Mow Cop Station, on the mounds and slopes of the old quarries; *Webb*.

It seems to me that in Mid-Cheshire in nine cases out of ten the Carrot is merely a remnant of cultivation, much as a field-side specimen of *Pastinaca* or *Trifolium hybridum* might be. On a few old and sterile pastures, *e.g.* at Byley Brows, I agree with Mr. Holland that it begins to assume a much more native look. The plain of Cheshire as a rule is too rich, and the Carrot does not ascend into the higher ground of extreme East Cheshire; but as a littoral plant and in the S.W. portion it is no doubt native.

TORILIS, Adans.**T. infesta, Spreng.***Spreading Hedge-Parsley.*

By roadsides; in cultivated fields; also waste littoral flats. *B.* July, August. Native. Rare.

4. In *Dick. Flo.* said to be "common in fields and waysides;" in *Flo. Liv.* "frequent:" no Cheshire locality is given by either.
5. Right-hand hedge-bank, by a small farmstead entering Newton from Tattenhall Lane.

T. Anthriscus, Gaert.*Upright Hedge-Parsley.*

Hedge-banks, borders of fields, and hard waste ground by roadsides.
B. July to September. Native. Generally distributed. Personal records in 1, 2, 3, 4, 5, 6, 7; second-hand records in 1, 2, 4, 5, 6, 7.

T. nodosa, Gaert.*Knotted Hedge-Parsley.*

Dry banks near to the coast, and borders of fields. *B.* May to July.
 Native. Rare. Shore.

4. Common about Little Sutton; *Hall, Flo.* In *Dick, Flo.* stated to be "not uncommon," but no Cheshire localities given. The *Flo. Liv.* simply says "frequent," and mentions no localities. Banks in the first field north of Parkgate; In several places between Burton Point and the Colliery; *Webb and J. L. W.* Plentiful on a hedge-bank on the road from Parkgate to Neston, just outside Parkgate; On the dry bank close to the college on Bidston Marsh; The Navigation Cop, Chester; Third milestone, Thornton Grange.

CHÆROPHYLLUM, Linn.**O. Anthriscus, Lamk.***Common Chervil.*

Dry hedge-banks, borders of fields, and light waste land. *B.* Early Summer. Native. Rare.

2. On roadside, near the Canal Bridge, Altrincham; About Bowdon; *Wood, Flo.* Near Broadheath Bridge, Altrincham; *Buxt. G.* By the lane-side on Tabley Hill, between Mr. Ashbrook's and Mr. Steele's farms: the only station which I know in my home district.
3. Elton; Ince; Dunham-on-the-Hill.
4. Localities not mentioned in the Liverpool Floras, it being there mentioned as a "common" or a "frequent" plant. Hedge-banks and sandy wastes by the field-footway from the Hill Houses to Hoylake Station; Frequent in the West Kirby neighbourhood; In roadside hedges about Wallasey; *Webb.* Common in the hedges between Hoylake and Moreton; About Parkgate, especially to the south, in a lane which meets the road to Neston; &c.; Little Soughall, S.E.
5. North outskirts of Chester; Christleton.

O. sylvestre, Linn.*Smooth Chervil.*

Open places in woods, and under hedges; meadows; borders of fields.
B. Spring and Summer. Native. Generally distributed. Personal records in 2, 3, 5, 6, 7; second-hand records in 1, 2, 4, 5, 6, 7.

O. temulum, Linn.*Rough Chervil.*

In the lower part of hedges; borders of fields, and waste places. *P.* July to September. Native. Generally distributed. Personal records in 2, 3, 4, 7; second-hand records in 1, 2, 4, 5, 6, 7.

O. cœrefolium, Crantz.

A garden waif.

1. Lane near Baguley, by Stockport; *B. G.*

MYRRHIS, Tourneff.**M. odorata, Scop.***Sweet Cicely.*

About farmhouses in the high grounds, and in the lower country by and near the meadow and wooded borders of streams and rivers. *P. May, June.* Ascends to 1100 feet. Native or denizen. Rare. Chiefly hills.

1. Banks of the rivers near Stockport; (*Holme*), *B. G.* On and near the banks of the Tame in Reddish Vale, in great profusion; *Buxt. G.* Abundant in the meadows adjacent to every stream of importance in the district, especially those lying near to the Tame, and near the Mersey, about Cheadle; *Gr. Flo.* Occurs in considerable quantity by the River Goyt, above New Mills, and extends into the adjoining grass-land; By the roadside, and in the woods from the road to the river above Strines, in abundance; The Canal-side, below the road nearing Whaley Bridge from Furness; The yard of Charles Head Farm, situate on the high land S.W. of Kettleshulme; By a farm shipp on above "Galloway Knowl," on the road from Crag Works to Forest Chapel; In large quantity in the burying-ground of Forest Chapel; *Webb.* Brookside between Staleybridge and Mottram; should call it "denizen;" *Baker and Webb.* About 1825 this was plentiful along the sides of the Goyt River at Whaley Bridge; *Watson.* Banks at the junction of the Etherow and Goyt.
2. Banks of the Mersey, from Marple to its junction with the Irwell, in many places abundant; *Buxt. G.* A few scattered plants in Mobberley, in the Bollin Valley; *Holland.*
4. In the lanes about Prenton Hall Farm; (*Webb*), *Flo. Liv.*

SCANDIX, Linn.**S. Pecten-Veneris, Linn.***Venus's Comb.*

In cultivated fields. *A. June to August.* Colonist or casual. Rare, and uncertain.

1. The Manchester Floras speak of it as an "occasional" plant, but do not specify any localities. I have seen a fresh specimen from Northenden; (*J. Ollier*), gathered in a field close to the river.
2. Ashley-Bowdon (very scarce), August 1858; *Hunt, sp.* I copy Mr. Hunt's ticket exactly. The plant came no doubt from Ashley.
4. The Liverpool Floras enter this as a "common" or a "frequent" plant in that district, and do not name localities. I have seen it for ten years running in the cereal or root-crop in the "Sandcroft" field near Cloughton village; Potato-field (1873) by the footpath from Parkgate to Ashfield Hall; Newly broken ground (for hedge-planting) on south side of the railway a mile west of Hadlow Road Station, in large quantity, 1873; *Webb.* In cornfields

between Great Meols Station and Newton; *Brown*. Corn-fields, Parkgate; *Lewis*, *sp.*

5. Observed near Chester, and I believe permanent in that neighbourhood; *Sidebotham*.

CONIUM, Linn.

C. maculatum, Linn.

Common Hemlock.

In waste ground, often near habitations; along hedges, and the borders of fields. *B.* June to August. Native. Common in Hundred 4, rare elsewhere. Chiefly shorewards.

1. The yard of a farm at Bramhall; *Gr. Flo.*
2. A solitary but immense plant grew some few years ago on Bollin House Farm, Mobberley; *Holland.*
3. Helsby Hills and Netherton, near Frodsham; (*Robinson*), *App. Flo. Liv.* Between Great and Little Barrow in a lane to the west of the main road; *Webb.* A few plants by the side of a new road, a short distance up Helsby Hill, going from the railway station; *Brown.* Bridge Trafford, E.; Railway, Great Barrow.
4. Rather common in the Hundred: plentiful at Ellesmere Port; *Mr. Bennett.* By the side of a footpath between Hoylake and Soughall Massie; (*W. Skellon*), *Dick. Flo.* Borders of fields at Wallasey, Bidston, and between Bidston and Morton; (*Webb*), *Flo. Liv.* Hedge-bank between Neston and Leighton; *Field Club.* Caldby Hill near the village; (*Webb*), *App. Flo. Liv.* Close by the church at West Kirby; *Brown.* At the corner where the lane from Hadden Hall enters the road a little east of Burton Village; *Webb.* A good patch of plants in the lane skirting Backford, leading towards Chorlton; *Brown.* Roadside about half a mile beyond the Stone Bridge near the College, N. Chester, towards Little Soughall, (*Brown*), *Sec. App. Flo. Liv.* On a Common just N. of Hoylake; Near the cottage on Bidston Marsh; Several plants on roadside wastes, near Gayton and Parkgate; Soughall road, Chester; Plentiful by canal, south of Little Mollington; By the Cop, Chester; Newton.
5. Waste places by the city walls at Chester; (*J. Price*), *Flo. Liv.* In a stone quarry N.W. of hand-bridge across the Dee at Chester; Pulford; Guilden Sutton. [About Kidnal; Overton Scar; *A. H. Wolley Dod.*]

I believe absent or extremely rare in my home district, and with the exception of Hundred 4 it is a rare plant in the county.

SMYRNIUM, Linn.

S. Olusatrum, Linn.

Common Alexanders.

Waste ground of various descriptions in the vicinity of old villages or farmsteads; confined, however, to the north portion of our maritime Hundred. *B.* or *P.* June. Alien, hardly a denizen. Rare. Shore.

4. At Poulton, in a moist place where the stream of water joins Wallasey Pool, opposite a small public-house called the

Poulton Hotel; *Hall. Flo.* (I verified this habitat in 1866, and understand the plant still existed there in 1873, notwithstanding all the recent alterations in the neighbourhood. The plants have evidently spread from an old garden, nearest which they are thickest, and actually within the limits of this garden some plants were growing.) In a lane leading from Moreton Village to Leasowe, abundant; (*W. Skellon*), *Dick. Flo.* (Confirmed 1873, and the plant likely to continue undisturbed; *Webb.*) Field near West Kirby Church; (*Miss Grundy*), *Flo. Liv.* Grows in large quantity and very luxuriantly in a plantation on the left-hand side of the road between the inn on Grange Hill and the Grange Farm; *Webb and Brown.*

***Coriandrum sativum*, Linn.**

Common Coriander.

Casual. Native of the Levant.

1 and 4. Stray specimens have been met with "by the roadsides about Flaybrick Quarry;" *Flo. Liv.*; and *Gr. Flo.* speaks of it as "an occasional visitant."

ARALIACEÆ.

HEDERA, Linn.

H. *Helix*, Linn.

Common Ivy.

In woods, hedges, and on old buildings and rocks. *Sh.* October, November. Native. Generally distributed. Personal records in 1, 2, 3, 7; second-hand records in 1, 2, 4, 5, 6, 7.

CORNACEÆ.

CORNUS, Linn.

C. *sanguinea*, Linn.

Common Dogwood.

In hedges, &c. *Sh.* Summer. Not native?. Not unfrequent in coverts.

2. Woody banks of Rostherne Mere; *Wood, Phyt. i.* (1842), p. 280. (Not given subsequently by Buxton or Grindon.) Not native, but a tree or two between the Red Lodge and Knutsford, in the Parkbelt, and copiously in a little plantation on the Serpentine.
3. Well established near Frodsham; (*Robinson*), *Flo. Liv.*
4. Roadside waste about a mile from Little Soughall, towards Chester; Hedge near the county boundary beyond Blacon Point.
5. Upper hedge of a field immediately above Lea Hall Farm, east of Aldford, along with *Rhamnus catharticus*; *Newbould and Webb.* In the lane from Guilden Sutton towards Great Barrow, half a mile from the former; *Webb.* Blacon Point, Queen's Ferry Road, about a mile from Chester, and very common in hedges about a mile farther on, but apparently planted; *Holland.* River-bank under Eccleston Church;

Lane south from Boughton; Aldford; Near Heron Bridge, above Chester.

6. Native-looking, still I think planted, about Combermere, where it fringes the mere copiously.

7. In a hedge near Wardle Lock, Middlewich; *Jebb*.

The first two or three of this ever seen by me were in the hedge of a lane at Congleton, a continuation of Wagg Street; fields on both sides of the lane. Likely introduced, as I did not see it elsewhere about Congleton and the lane was sandy; *Watson, MS.*, 1875.

LORANTHACEÆ.

VISCUM, Linn.

Mistletoe.

V. album, Linn.

Parasitic on apple-trees. *P.* Spring. Not native: always planted. Rare.

2. On apple-trees in gardens and orchards at Lymm, Warburton, Knutsford, and Baguley, but very sparingly; *Gr. Flo.* On an apple-tree at Bradwall Hall, but this is known to have been propagated artificially; *Holland*.
4. Dr. Dickinson and Mr. Watson (*Cyb. Brit.*) both agree against the nativity of *Viscum* in the limits of the Liverpool floras. (Two Lancashire stations are given.)

Does not present any appearance of nativity: all the records are most suspicious.

CAPRIFOLIACEÆ.

ADOXA, Linn.

A. Moschatellina, Linn.

Tuberous Moschatel.

On moist banks in woods and other shady places. *P.* May. Native. Probably not uncommon; much overlooked.

1. Represented as common in the Manchester Floras: no localities. Lane leading to Aqueduct Farm, near Romiley; *Thos. Chapple*.
2. Abundant about Ashton-upon-Mersey; *Gr. Flo.* It is very universal in my home district; e.g. The Lane leading from the bridge to Tabley Old Hall; The Ride Wood; Tabley Hill Lane.
3. Banks of a small brook about one mile north of Mouldsworth, towards Manley; *Brown*. Hedge-bank between Norley Bank and Delamere House; *Brown*.
4. The Liverpool Floras give it as a frequent plant, and do not specify localities. Hedge-bank in Ellin's Lane, Lower Bebbington; Among a clump of trees immediately under Noctorum, towards Woodchurch; *Brown and Webb*.
5. [Edge Park; Lower Wych; *A. H. Wolley Dod.*]
7. Between Congleton and Astbury; *Watson, MS. Notes*.

A troublesome plant to verify the distribution of, as it flowers nearly by itself and is so insignificant.

SAMBUCUS, Linn.**S. nigra, Linn.***Common Elder.*

In coppices, woods, and hedges. *T.* or *Sh.* June. Native. Generally distributed. Personal records in 1, 2, 3, 4, 6, 7; second-hand records in 1, 2, 4, 5, 6, 7.

S. Ebulus, Linn.*Dwarf Elder.*

Wastes in the neighbourhood of dwellings. Alien or denizen. Rare.

1. In Rainow, by roadside bridge near Goodwin's Mill; (*Bradbury*), *B.G.*
2. Lane beyond Ashton-upon-Mersey Church, abundant. August 1859; (*Sidebotham and Browning*), *Add. Gr. Flo.* In several places near Ashton-upon-Mersey and near the river; (*Sidebotham*).
4. Near the village of Oxton; (*A. Murray*), *Hall, Flo.* Abundant in a hedge-bank near Soughall Massie; (*Skellm*), *Dick. Flo.* Higher Tranmere, near the Stone Quarry; (*Marrat and Dr. Graham*), *Flo. Liv.* The edge of a field bordering a garden by the roadside between Moreton and Hoylake, sparingly; (*Webb*), *Flo. Liv.* (Not seen by me, however, since 1865, and I feel sure the Oxton locality is destroyed; *Webb*.)

Probably hardly a denizen in our province.

VIBURNUM, Linn.**V. Opulus, Linn.***Common Guelder-Rose.*

By the banks of streams, in woods, coppices, and hedges. *Sh.* Summer. Native. Generally distributed. Personal records in 1, 2, 3, 6, 7; second-hand records in 1, 2, 4, 5, 6, 7.

LONICERA, Linn.**L. Periclymenum, Linn.***Common Honeysuckle.*

Hedges, thickets, and woods. *Sh.* June to September. Native. Generally distributed. Personal records in 1, 2, 3, 4, 7; second-hand records in 1, 2, 4, 5, 6, 7.

L. Xylosteum, Linn.*Fly Honeysuckle.*

Woods, &c. *Sh.* Early Summer. A doubtful native in the south; naturalised elsewhere.

2. This occurs, always planted, at Lymm and in the neighbourhood; (*Bailey*), *E. C. Rep.* 1870.
4. I have seen it in various plantations in Wirral; e.g. In Jackson's Wood, near St. Arden's College, Birkenhead; In plantation on the north side of the Sandcroft, near Cloughton Village, with *Laburnum* and South European Oaks; *Webb*.

RUBIACEÆ.

GALIUM, Linn.**G. cruciatum**, With.*Crosswort Bedstraw.*

On hedge-banks in roadside roughs, and stony margins of streams. *P.* May, June. Ascends to 600 feet. Native. Local, but fairly general.

1. Northen; *Buxt. G.* Cheadle; *Gr. Flo.* Not seen near Staley-bridge, but is a frequent plant through the middle and south portion of the Hundred up to 600 feet; *Webb.* Plentiful, new road between Disley and Whaley; Near Gatley; Marple.
2. About Sale and near Jackson's Boat; *Wood, Flo.* Carrington; *Buxt. G.* and *Hunt, sp.* 1857. Stream-side between Timperley and Brooklands, by the side of the railway, 1864; *Hunt, sp.* Rare in my home circuit: margin south of Budworth Mere; In the rough by the roadside near the bridge at the Smoker Inn; Roadside just the Northwich side of Wincham Wharf.
3. Hedges near Weaverham.
4. Hedge-sides below "River View," Seacombe; *Dickinson.* Near Eastham, and very abundant in hedges and dry banks about Sutton Hall; *Hall, Flo.* About Hooton Hall; *Dick. Flo.* Plentiful in the south part of the Hundred; *Brown, &c.* Not a plant of the Stoke neighbourhood, I believe: it occurs in that direction, however, between Dunkirk and Backford Cross; In central Wirral I do not know it north of the lane between Ledsham Station and the Toll-gate on the old Chester road; *Webb.* Left-hand of road two miles out of Chester towards Shotwick and Parkgate; Soughall road, out of Chester; By the Cop, Chester; Blacon Point.
5. The Cop, near Chester; (*Harris, Flo. Liv.* About Malpas; Marbury; Wirswall; Broxton; Farndon; *Brown.* The wooded banks at Blacon Point; About Golbourne Belleau, a mile N.W. of Tattenhall; *Newbould and Webb.* (I should say decidedly common in south portion of the Hundred; *Webb.*) Between Chester and Calveley, by the roadside in several places; Chester, N.; Pulford, N.W.; Dee-bank, Eaton Hall grounds.
6. Hedge-banks between Nantwich and Ravensmoor; Marbury. &c.; *Brown.* A common plant in the Audlem district; *Webb.* Near Wrenbury Station.
7. In lanes between Middlewich and Sandbach; *Holland.* Bradshaw Brook, Lower Peover, opposite Hulme Lane; Plentiful between Byley and Middlewich, by the roadside. By the roadside near Dyer's-ford Bridge; Again near Somerford.

G. verum, Linn.*Yellow Bedstraw.*

Dry sandy hedge-banks and poor upland pastures, inland; and upon the coast sandhills and adjoining sandy tracts. *P.* July, August. Ascends to 1100 feet. Native. Rare, except in 4.

1. On the Buxton Road between Disley and Whaley; *Buxt. G.* Very sparingly at the brow of the pastures above the cottages situated between Badger's Clough and the Red-moor Lane, near Disley; A rough pasture sloping to the river between the Powder Mills and Knipe Farm, south of Taxal, in small quantity; *Webb.*
3. By the roadside between Hartford Station and Sandiway Head, not far short of Vale Royal; West of Booth's smithy, Little Budworth.
4. Frequent on dry banks inland in Wirral; *Flo. Liv.* A common littoral plant: Sandhills, New Brighton, Wallasey, Leasowe, Hoylake, Parkgate, abundant; The Cop, Chester; Near Blacon Point; Thornton Grange.
5. Hedge-bank at the sharp turn in the road out of Aldford, on the way to Lea Hall Farm; *Newbould and Webb.* Hedge-bank at Bradley Bridge, a mile S.E. of Malpas; *Webb.* Roadside bank north of Bickerton; Between Christleton and Boughton; Near Aldford; Dee Cop, Chester; Saighton.
6. Roadside hedge-bank nearing Winterley from Haslington; Hedge-banks between Wrenbury Schools and "The Cliff;" Hedge-banks in the lane past Buerton Mill from Audlem; *Webb.*

Curiously distributed: nearly absent from the central portions of the county, it occurs in the hills, shore portion, and about the southern boundaries.

G. saxatile, Linn.*Heath Bedstraw.*

Heaths, moors, sterile upland pastures and the borders of woods. *P.* June to August. Ascends to 1750 feet. Native. Generally distributed. Personal records in 1, 2, 3, 4, 5, 7; second-hand records in 1, 2, 4, 5, 6, 7.

G. palustre, Linn.*Water Bedstraw.*

In ditches, pits, and other wet situations. *P.* Summer. Native. Generally distributed. Personal records in 1, 2, 3, 4, 7; second-hand records in 1, 2, 4, 6, 7.

Var. β. elongatum (G. elongatum, Presl.).

4. Deep ditches on Bidston Marsh; (*Webb*), *Flo. Liv.*

Var. γ. Witheringii (G. Witheringii, Smith).

3. Pit at Bulkeley, close to the Hundred boundary.
4. "Pinguicula ground," Raby. [Ditches near Leasowe; (*Bailey*), *R. C. Rep.* 1884-86.]
5. Milton Green; *Lewis.* Roadside ditch below "Goose," near Tattenhall. [Edge Park; Edge Green; *A. H. Wolley Dod.*]
6. Between Crewe and Nantwich; *Lewis.*

G. uliginosum, Linn.*Swamp Bedstraw.*

In swamps and in marshy ground by pits and in ditches, especially on mosses. *P.* Summer. Ascends to 750 feet. Native. Local.

1. In a swampy field by the river Goyt, a quarter of a mile above the Powder Mills; Ditch between the N.W. corner of Redes Mere, Capesthorpe, and the road; *Webb*. Glead Moss, near Withington.
2. On a spongy bog near the margin of Rostherne Mere; *Buxt. G.* Lower Willow Bed, Tabley Park; Plentiful in the trenches of the Willow Bed, at the west end of Pickmere Mere.
3. Fish Pool, Delamere.
4. The Liverpool Floras speak of this as a common plant: Hall, however, does not enter *G. palustre* in his Flora. "*Pinguicula* ground," Raby.
5. Little Heath Pond, Christleton. [Edge Park, common; *A. H. Wolley Dod.*]
6. In a ditch in "the salt-spring meadow" at Audlem; *Webb*. I have a record of this district without a station, but probably I observed it on or near Brankelow Moss, Combermere.

G. anglicum, Huds.

Error? An old unconfirmed station.

1. On Wild Bank near Staleybridge; (*Bradbury*), *B. G.* Wild Banks are marked on the Ordnance Map about $1\frac{1}{2}$ mile due E. of Staleybridge.

G. Aparine, Linn.*Cleaver's Bedstraw.*

In hedges and cultivated ground. *A.* July, August. Ascends to 900 feet. Native. Generally distributed. Personal records in 2, 4, 6; second-hand records in 1, 2, 4, 5, 6, 7.

ASPERULA, Linn.**A. odorata, Linn.***Sweet Woodruff.*

Woods, cloughs, and on shady hedge-banks. *P.* May, June. Ascends to 850 feet. Native. Not uncommon.

1. In most of the woods near Manchester; Woods in Marple and Reddish Vales; In Fog-brook Clough, near Marple; *Buxt. G.* Styal; *Gr. Flo.* Wooded banks of a brook that runs down to Hollingworth; *Baker and Webb*. Shady places on both sides of the semi-private road between Goyts Bridge and the Powder Mills; Large wood by the roadside between Dan Bank Toll-gate and Rose Hill Station; *Webb*.
2. Ashley; *Hunt, sp.* Cotterill Clough, abundant; *Wood, Flo.* Not common in my home circuit. Tabley Round Wood and Lennards Wood.
4. The Liverpool Floras give this as a "frequent" species, and do not mention localities. In the remnant of Gilbrook,

formerly one of the best botanising grounds in the neighbourhood of Birkenhead; In Eastham and Bromborough Woods; and in a dingle between Hooton Hall and the river-side; *Webb*.

5. [Edge Upper Wood; Common in Lower Wych; *A. H. Wolley Dod.*]
6. Hedge-bank by the roadside about a quarter of a mile south of the bridge that carries the Tarporley to Whitchurch road over the Ellesmere and Chester Canal; Shady hedge-banks a quarter of a mile ere reaching College Fields Farm from Buerton; *Webb*. Woods by the mere at Combermere.
7. Congleton; *Watson, MS. notes*. Shady hedge-banks between Mow Cop Station and the Limekiln Farm, and thence to Astbury, frequent; *Webb*. In a lane between Jodrell Hall, and Higher Peover Park.

***A. taurina*, L.**

Pink Woodruff.

3. Found in one locality near to Frodsham; *Robinson*. This record dates back some years (*vide Flo. Liv.*), and of course the plant was from some garden.

***A. arvensis*, L.**

Blue Woodruff.

5. "Growing rather abundantly near Eccleston, *J. Harrison*; but assuredly introduced;" *Dick. Flo.*

SHERARDIA, Linn.

***S. arvensis*, Linn.**

Field-Madder.

In cultivated ground (stubble-fields); on bare roadside wastes, and amongst the loose stones of new-made roads. *A.* June to August. Native. Rather local.

1. Corn-stubble near Woodford New Hall; *Webb*.
2. Given as common in the Manchester Floras: Sale; *Buxt. G.* is the only Cheshire locality specified. Fields, Bowdon; *Hunt, sp.* Rather local in the Tabley district: Hield Brow Fields, Budworth, &c.
3. Fields near Oakmere; Roadside about Sandiway Head, &c.
4. The Liverpool Floras enter it as "common." In stubble-fields in North Wirral, general; Amongst macadam in various little-used roads about Cloughton Village; *Webb*. Common: Eastham; Parkgate sandhills, &c.
5. In a bean-field near Carden, and a stubble-field close to Barton (1874); *Webb*. In a field near the top of Bickerton Hill.
6. Amongst corn-stubble in a field at Wybunbury, very sparingly, and only once seen; *Webb*.
7. Sandy lane leading S.E. of Lower Peover Covert; Abundant, 1869, in a field a little W. of Nether Peover.

VALERIANÆÆ.

VALERIANA, Linn.

V. dioica, Linn.

Marsh Valerian.

Swampy and marshy ground and in wet meadows, and on probably every Cheshire moss of any extent. *P.* May, June. Ascends to 1300 feet. Native. Thin general distribution.

1. In a boggy meadow near Reddish Mill; *Buxt. G.* Mill Clough N.E. of the "Cat and Fiddle" at about 1300 feet, sparingly; Ditch by the side of the Congleton road, under "Spar Bent," about a mile from the Derbyshire frontier; *Webb.*
2. Hale Moss; Rostherne Mere; *Buxt. G.* Cotterill; Knutsford Moor; In Burley-Hurst Wood, Mobberley; *Gr. Flo.* Hale Moss, 1858; Marsh by Rostherne Mere; *Hunt, sp.* Holford Mill Bottoms, plentiful.
3. Damp ground near the Canal, about half a mile W. of Beeston Railway Station; *Brown, sp.* In a field by the river Weaver at Cattenhall; (*Robinson*), *Flo. Liv.*: there are specimens hence in *Hunt Herb.*
4. Damp ground by the stream at Raby; *Field Club.* By a ditch-side and adjoining marshy ground in a field to the left of the footway between Hoylake and the Hill Houses; *Webb.* In one or two places about West Kirby; (*Miss Grundy*), *Flo. Liv.*
5. [Frequent between Whitney Lane and Edge; *A. H. Wolley Dod.*]
6. Wybunbury Moss; *Newbould and Webb.*
7. Sides of the Lower Peover Church trench, plentiful; Brookhouse Moss.

No doubt thinly but generally distributed throughout inland Cheshire.

V. sambucifolia, Mikan.

Common Valerian.

Sides of ditches and streams; in damp woods and other moist situations. *P.* June to August. Native. Generally distributed. Personal records in 2, 7; second-hand records in 5, 6, 7.

I can find no satisfactory record of the true *V. officinalis* in Cheshire. Certainly all the specimens I have examined seem to belong to *V. sambucifolia*, Mikan.

VALERIANELLA, Tourn.

V. olitoria, Moench.

Common Corn-salad.

Sandy ground near to the coast, and on dry banks and light cultivated ground, inland. *A.* May, June. Native coastwards. Common in Wirral. Shore as a native.

1. Manchester Floras say not uncommon, but do not specify any localities.
2. Bowdon, June 1861; *Hunt, sp.* On ballast at Baguley Station, 1866: clearly introduced.

3. Roadside bank about one-third of a mile west of Tarvin.
4. A common littoral plant: Plentiful on the sandhills and on dry cops at Wallasey, Leasowe, &c.; *Flo. Liv.*, &c., and *J. L. W.* Gayton Lane.

I should say this was imported in most instances in districts 1, 2, [and 3]. It came up a weed several times in Tabley Kitchen Garden, just as *Arenaria serpyllifolia* did. In Cheshire it seems native only as a littoral plant, and is in much the same category as *Sedum acre*.

V. carinata, Lois. *Keeled Corn-salad.*

Cultivated ground. *A.* May, June. Error? Not native.

2. Found at Bowdon; *Gr. Flo.* (No authority is mentioned by Grindon.)

V. dentata, Koch. *Narrow-fruited Corn-salad.*

In cultivated fields, and occasionally a few plants find their way to the roadsides. *A.* July, August. Native or colonist. Rare. No hill record.

2. Not uncommon about Bowdon; *Bux. G.* Hedge-side near Bowdon Vicarage, July 1869; *Hunt, sp.*
4. Borders of fields near Upper Tranmere; *Hall, Flo.* Near Rock Ferry and Bromborough, frequent; *Dick. Flo.* Abundant in a cornfield (1873) through which the footpath from Gayton Lane to Backford House passes; By the roadside a little east of Burton; *Webb.* In an oat-field border close to the river between Bromborough Poolhead and New Ferry.
7. Two plants by the roadside between Congleton and Holmes Chapel, about half-way between the two.

Centranthus ruber, DC.

Red Valerian.

Commonly cultivated, and may now and again be met with on old walls outside gardens, *e.g.* At Tranmere; *Dick. Flo.*

DIPSACEÆ.

DIPSACUS, Linn.

D. sylvestris, Linn.

Common Teasel.

- In hedges; roadside wastes and the borders of fields. *B.* July, August. Native. Rare. Chiefly shore.
2. Near Ashley, 1858; (*Hunt, sp.*), *Gr. Flo.* Aston; (*Robinson, Flo. Liv.* (Casual here, I believe.)
 3. South bank of the Weaver between Cattenhall and the Acton Viaduct, about five years ago; *Brown.* Frodsham Marsh, east end.
 4. Very common by roadsides and in meadows about Bidston, Upton, &c.; Near Tranmere Wood; *Hall, Flo.* About Moreton and Soughall Massie; *Dick. Flo.* Near Parkgate,

fifteen or twenty years ago; *Brown*. The road to King's Ferry; By and near the canal a little north of Stoke; *Webb*. Field-hedges a little beyond Bidston Toll-gate; Again a field-hedge just before entering Hoylake; Abundant in a hedge which meets the coast at right angles, say a mile north of Parkgate; The "Cheese Stage," Chester.

5. Guilden Sutton; (*Jas. Harris*), *Flo. Liv.* A few plants in the hedge at Blacon Point; *Holland*. We noticed it as a rather frequent plant in the neighbourhood of Blacon Point; The most southern point we saw it in the Hundred was by the side of Shay Field Lane, commencing about half a mile along it from Calveley Hall; *Newbould and Webb*. Sparingly by the roadside about half-way between Barton and Coddington, 1874; *Webb*. Pulford; Gorstella, W.; Near Lache Hall; Aldford, E.; Moat west of Saughton; The Lache Eyes.

D. pilosus, Linn.

Small Teasel.

Woods and moist shady banks. *B.* July, August. Native. Rare.

1. Near Broken Brow, by Stockport; (*Holme*), *B. G.*
2. In thicket on right bank of the Bollin above Cotterill Clough; (*Jas. Percival*), *Buxt. G.* and *Gr. Flo.* Aston Wood, Aston, 1851; (*J. Harrison*), *Supp. Dick. Flo.*; Still there 1867; (*Robinson*), *Flo. Liv.*
5. [Very rare: only seen at Crewe Hill, Farndon; *A. H. Wolley Dod.*]

SCABIOSA, Linn.

S. succisa, Linn.

Devil's-bit Scabious.

In old unmowed pastures, dampish heathy ground, and open places in woods near heaths,—a characteristic of the hillsides in East Cheshire. *P.* July to October. Native. Generally distributed. Personal records in 1, 2, 4, 6, 7; second-hand records in 1, 2, 4, 5, 6, 7.

Nothing like so common in Wirral as in other parts of Cheshire.

S. columbaria, Linn., is found at Buxton on the Miller's Vale Road (*Hunt, sp.* August 1871), and therefore should be sought for in the Whaley Bridge neighbourhood.

S. arvensis, Linn.

Field Scabious.

Hedge-banks, railway slopes and embankments; the edges of fields and by roadsides. *P.* July to September. Ascends to 900 feet. Native. Local.

1. Between Disley and Whaley, plentiful; Near Marple Hall, plentiful; *Buxt. G.* Abundant on the declivities of Werne Low descending towards Hyde; (*Sidebotham*), *Gr. Flo.* In a cornfield at the top of Redmoor Lane, near Newtown New Mills; Field alongside the farmhouse situate between the canal and the river, half a mile below Furness Vale; Hedge-banks by Pexhill, 2½ miles S.W. of Macclesfield; In the lane between the entrance to Henbury Hall and Henbury smithy; *Webb*. Highway road

between Henbury and Macclesfield; Mottram Hall, near the lodge; Railway station, Wimslow and Alderley; About a mile past Chelford on the Macclesfield road; Between Whaley and Disley, on the banks above the new road, more plentiful than anywhere I have yet seen it in Cheshire.

2. In the fields on both sides of the road from Mobberley Station to the Church: found here on an area of perhaps half a square mile; *Holland*. Sparingly about Bowdon and Ashley; *Gr. Flo.* and *Hunt*. A single plant (1866) in the lane between Flitto Gate Farm and the Northwich Road, Tabley: the only time I have seen it in my home district.
3. Hedge-bank, Godscroft, near Frodsham; (*Robinson*), *Flo. Liv.* Netherton; (*Robinson*, *sp.*), *Hunt*, *Hb.* Beeston Gate, N.
4. Wirral; (*Watson*), *Hall*, *Flo.* Frequent in cornfields near Neston; (*Skellon*), *Dick. Flo.* The railway bank half a mile east of Neston Station, and in quantity in the cultivated land adjoining; *Webb*. Thornton Grange; Neston.
5. Waverton Station. [About Horton; *A. H. Volley Dod*.]
6. By the Tarporley and Whitchurch road as it nears the county boundary; Banks of the Canal, south of Audlem; Hedge-bank by the roadside near Wrenbury Station, going to Wrenbury Village; *Webb*. Railway banks between Basford and Crewe.

7. Railway banks between Holmes Chapel and Chelford.

Thinly and locally distributed, and thinning out from Central Cheshire, where it is rarest; nor does it seem commoner in the littoral province.

COMPOSITÆ.

ONOPORDUM, *Linn.*

O. *Acanthium*, *Linn.*

Scotch Thistle.

Roadsides and wastes in sandy ground near to the coast. *B.* August.
Native or denizen. Rare. Shore.

4. Hoylake; *R. Tudor*. Near Hoylake; (*Miss E. Potts*), *Hall, Flo.* About Soughall; *Massie*; (*Skellon*), *Dick. Flo.* Hilbre Island; (*Webb*), *Flo. Liv.* River-bank nearly under West Kirby; Roadside from Hoylake to West Kirby, opposite Hilbre Island; Prevalent on the waste ground about Hoylake Railway Station, 1867; A plant or two near the *Euphorbia Paralias*, south of Hoylake.

Must be held very guardedly native, much on a parallel with *Hyoscyamus* on our coast.

Silybum Marianum, *Gaert.*

Milk Thistle.

2. Hale Moss; Waste ground about Bowdon; *Buxt. G.* The latter locality repeated and "elsewhere" added in *Gr. Flo.*, with the remark that the plant is probably truant from a garden, being often cultivated.
3. "*Carduus Mariae*, *Ger.* Though frequent about London (*Ray*), it is so

rare in these counties that I have only seen it in the churchyard at Ince, Cheshire" (and in three places in Flint); *Waring in Phil. Trans.* vol. lxi. (1771), p. 362.

4. Has been met with in the neighbourhood of Birkenhead: in all cases the offspring of plants grown in neighbouring gardens; *Flo. Liv.* For several years previously to the field at the corner of Upton road and Birkenhead Park road west being brought into cultivation, a few plants usually appeared in it; *Webb*.
5. [About Horton Farm: a garden relic; *A. H. Wolley Dod.*]

CARDUUS, Linn.

C. tenuiflorus, Curt.

Slender-flowered Thistle.

Waste sandy places near to the sea. *B.* July, August. Native. Fairly frequent in one limited tract. Shore.

4. In a field at the back of Leasowe Castle; Egremont; *Hall, Flo.* Hoylake; Claughton; *Dick. Flo.* Banks and lanes in the upper part of Wallasey; *Webb*. The rocks at Burton Point; *Webb and J. L. W.* On the shore at the north extremity of Heswell Shore Heath, and on the banks half a mile nearer Parkgate; In a lane that runs from the flat behind Leasowe embankment towards Moreton; *Webb*. Very prevalent on all sides of Hoylake, notably towards West Kirby and at Little Meols; Several plants in a lane which leaves the Moreton road, northwards, just out of Hoylake.

Confined to the north and west coasts of Wirral, along which the above stations distribute it in a fair chain of continuity; no record from the east side, nor does the ground there seem suitable.

C. nutans, Linn.

Musk Thistle.

Dry pastures and waste ground. *B.* July, August. Native. Rare. Shore and hills.

1. Fields near to the roadside between Disley and Whaley; (*Buxton*), *Wood, Flo. and Buxt. G.* Lane down to Bredbury from Werneth Low; *Sidebotham, MS.* On the new road between Disley and Whaley, say three-quarters of a mile short of the latter: on the right hand in the second quarry you pass some twenty yards from the road, and one or two plants by the road.
4. In the first lane on the left out of the lane leading from Willaston Mill northwards, and in the adjacent field near the brook (1874); *Brown*. In an excavation whence gravel has been taken for the embankment, about half a mile to the north of Burton Point; some half-dozen plants: nativity doubtful, July 1873; *Webb and J. L. W.*

I do not see any reason to doubt the nativity of Mr. Brown's station, who has been good enough to supply me with copious data of the surroundings of this station: it is clearly native a very short distance on the Welsh side of Chester.

C. crispus*, Linn.Wetted Thistle.*

- By roadsides and on waste ground. *B.* July to September. Native. Rare. Plain.
2. By the side of the Manchester road a little before the White Lodge, Tabley; In a little waste where the hunting hatch road goes between the Lennards and Smoker Wood; A plant or two by Weaverside, a quarter of a mile below Acton Bridge.
 5. I recently (1850) observed this species near Chester; *Watson* in *Cyb. Brit.* vol. iii. p. 454. Fifty yards east of Moston Bridge, by a trench which runs parallel to the canal; Roadside between Tarvin and Vicar's Cross; Copiously below the Chester town wall, soon after the Cathedral; By the roadside leading south towards Eaton from the Suspension Bridge; Field-edge near the railway a little east of Saltney; Under roadside plantation north from Guilden Sutton. [Rare: Lower Wych; Dee meadows above Farndon; *A. H. Wolley Dod.*]
 7. Several plants by the road and the hedges between the Dane Bridge and Byley Brows; Several plants near the bridge over the Dane between Holmes Chapel and Cranage.

C. lanceolatus*, Linn.Spear Thistle.*

In pastures; by roadsides and in waste and cultivated ground. *B.* July to September. Ascends to 1750 feet. Native. Generally distributed. Personal records in 1, 2, 3, 4, 7; second-hand records in 1, 2, 4, 5, 6, 7.

C. palustris*, Linn.Marsh Thistle.*

In moist meadows; by the sides of ditches; in marshy and boggy ground and other wet situations. *B.* or *A.* July, August. Ascends to 1300 feet. Native. Generally distributed. Personal records in 1, 2, 6, 7; second-hand records in 1, 2, 4, 5, 6, 7.

C. heterophyllus*, Linn.Melancholy Thistle.*

Moist grassy upland ground. *P.* July, August. Ascends to 850 feet. Native. Rare. Hills chiefly.

1. Near Staley Bridge in a place called Wharf; (*Bradbury*), *B. G.* At the edge of the sloping grassy bank on the right-hand side of the semi-private road from Goyts Bridge to the Powder Mills: one patch occurs at say 200 yards from the entrance gate, and another forty yards farther on; Again, alongside the drive from Goyts Bridge to Err Wood Hall, not far from its commencement: evidently considered a troublesome intruder, as the spade had been used with reprehensible freedom from a botanist's point of view; (*Note.*—Err Wood Hall is not marked in the present (1874) issue of Ordnance Maps: it is situated below the cottages called "Castage;") *Webb.*
3. By the roadside about 150 yards from the Abbey Arms towards Delamere Station.

C. acaulis, Linn.*Dwarf Thistle.*

Dry fields and roadsides in the chalk and limestone counties. *P.* July, August. Casual. Once seen.

3. In a field on Overton Hills, near to Frodsham; (*Robinson*), *Flo. Liv.* Mr. Robinson, when pressed, told me in 1873 that the find on which he based the above record consisted of one or two plants near the canal, and that he had no doubt they were casuals! *Webb*.

C. arvensis, Curt.*Creeping Thistle.*

In fields, by roadsides, and in waste and cultivated ground. *P.* July, August. Ascends to 1750 feet. Native. Generally distributed. Personal records in 1, 2, 3, 6, 7; second-hand records in 1, 2, 4, 5, 6, 7.

C. eriophorus, Linn.*Woolly-headed Thistle.*

A. or *B.* Summer and Autumn. One old record.

7. *Carduus copite tomentosus*, *J. B.* A little short of Gatehouse-green (*sic*) in the road from Middlewich plentifully; (not elsewhere in these counties); *Waring* in *Phil. Trans.* lxi. p. 363.
 "Gatehouse" no doubt means "Yatehouse" of our day. Mr. Waring was an observant and a superior botanist, and there is no doubt his plant was really *C. eriophorus*.

CARLINA, Linn.**C. vulgaris, Linn.***Carlina Thistle.*

The coast sandhills, and grass-carpeted sandy ground in sea proximity; also on dry hilly ground inland. *B.* July to October. Native. Rare. Shore and hills.

1. Plentiful on Kerridge Hill; *Holland*.
4. Not a common plant of the Cheshire sandhills, as far as my experience goes: I have seen it sparingly at New Brighton, inland of the Wallasey sandhills, at Leasowe, and on the golfing ground at Hoylake, and I noticed its absence from the Dee shore; *Webb*. Several plants on a piece of waste grassy land lying next to the coast sandhills between Wallasey and Leasowe: No doubt here and there all along the Cheshire sandhills, but I have only found it this once.

ARCTIUM, Linn.**A. majus, Schkuhr.***Greater Burdock.*

Rough wastes and the outskirts of woods. *B.* July, August. Native.

5. In plenty alongside the walk through Eaton Hall grounds between Pulford and Poulton Hall; *Newbould* and *Webb*. A swampy bit of plantation on the right-hand side from Aldford to Lea Hall Farm; Lane behind Calverley Hall; Crooked Dee; The S.E. corner of Eaton Hall grounds.

A. minus, Schkuhr.*Smaller Burdock.*

Waste places. *B.* July, August. Native.

3. By the roadside wall close under Beeston Castle Station;

Budworth Common, close to the N.E. entrance-gate to Oulton Park; Base of the canal bridge by Tattenhall Road Station.

A. intermedium, Lange.

Intermediate Burdock.

Woods, roadsides, wastes. *B.* July, August. Native.

1. Edge of the wood between Woodford New Hall and Adlington; *Webb, sp.*
2. In most of the woods of my home district, notably in the Smoker and White Lodge woods throughout their whole length, being the only species noticed near home, but this a very common one.
3. Field E.S.E. of Delamere Station; Delamere, S.
5. Roadside in Salter's Lane, near Mickle Trafford; *Brown, sp.*
7. By cottages above the limestone quarries near Mow Cop Station; *Webb.* Common in the north of this district, e.g. in Peover New Covert.

SERRATULA, Linn.

S. tinctoria, Linn.

Common Sawwort.

The borders of thickets and bushy places in stiff-soil pastures. *P.* July, August. Native. Rare.

2. In fields and by hedge-sides, tolerably abundant in several stations in Mobberley; (*Holland*), *MS.* and *Gr. Flo.*
4. Gilbrook, plentiful; *Hall, Flo.* The Gilbrook may yet be partly traced through some fields north of Claughton Village in the direction of the Great Float (formerly Wallasey Pool), but it does not now produce the *Serratula* and other plants mentioned by *Hall*. I have no doubt whatever that all he speaks of as growing there were produced some thirty years ago: this plant was extinct before my time, i.e. before about 1860; *Webb.* In a damp meadow near to Clatterbridge Toll-bar; (*Shillito*), *Flo. Liv.*
5. The bank of a small wood, a hundred yards past the first bridge in the lane from Golbourne Belleau to Rushall Hall, say a mile N.W. of Tattenhall; *Webb and Newbould, sp.* [Rare: Near Royalty Gorse; *A. H. Wolley Dod.*]
6. In one field along the footpath from Wybunbury to Basford Station; *Newbould and Webb.*
7. I have found this only once in my home district, viz., In the hedge of a field at Lower Peover in the occupation of Widow Bailey.

CENTAUREA, Linn.

C. nigra, Linn.

Hardhead Knapweed.

Pastures, hedge-banks, borders of fields, roadsides, &c. *P.* July to September. Native. Generally distributed. Personal records in 1, 2, 3, 4, 6, 7; second-hand records in 1, 2, 4, 5, 6, 7.

[C. Jacea, Linn.] A casual in Cheshire.

- i. In the Cemetery at Dukinfield, growing with *C. nigra* and other wild plants. Introduced with grass-seed?; (*J. Whitehead*), *R. C. Rep.* 1877.]

C. Scabiosa, Linn.*Greater Knapweed.*

Borders of fields. *P.* July to September. Native. One or two stations.

1. Rocky places in the Windgather Rocks; *Astley List*. These are marked on the Ordnance Map a mile S.S.W. of Taxal.
4. Field near Wallasey Church; (*Maughan*), *Dick. Flo.* Grows on the borders of a field on the left-hand side of the lane between Wallasey Church and Claremont School, which in all probability is Mr. Maughan's locality; *Webb*. In a meadow a little to the north of Queen's Ferry: very plentiful in 1856; (*J. Shillito*), *Flo. Liv.*

Hall says: "In 1837 I received a specimen from Mr. H. C. Watson, marked Corn-fields, Cheshire."

C. Cyanus, Linn.*Corn Knapweed.*

A weed amongst cereal crops. *A.* July, August. Colonist, or even casual. Rare and uncertain.

2. Bowdon, 1857; *Hunt, sp.* In cornfields occasionally: *Sale; Gr. Flo.* Rare, and I believe about here merely brought with the corn. I have found it only five or six times, e.g. in a field south of the "Windmill" Inn in 1866, &c.
4. I have never met with this plant in Wirral; *Webb*. Hall omits it entirely; Dickinson says "Cornfields occasionally;" *Flo. Liv.* takes much my view and gives four Lancashire stations only.
5. Sown crop in a field near Hoole Lane, Chester. First seen and gathered by J. D. Siddall.
7. A field of Snelson's Farm, near Lower Peover Back Lane, 1866.

If only considered a colonist in the South of England, this plant can be reckoned little better than an alien in Cheshire: it is much in the position of *Thlaspi arvense*, *Scandix*, *Ranunculus arvensis*, and other common cereal weeds of the south, which with us are only occasional and not permanent.

C. Calcitrapa, Linn.*Star Thistle.*

A common European species found in the South of England.

4. Has several times been met with as a ballast plant in the neighbourhood of the Birkenhead Docks; *Webb*. On ballast, Seacombe; *Lewis, sp.*

C. Calcitrapoides, Linn.

Native of South-Eastern Europe.

4. About 1860 in considerable quantity as a ballast plant at Birkenhead Docks; *Webb*.

C. melitensis, Linn.

Native of Southern Europe.

1. Rubbish-heap in a quarry between Staleybridge and Mottram; *Baker and Webb*.
4. A frequent ballast plant at Birkenhead Docks; *Webb*.

CHRYSANTHEMUM, Linn.**C. segetum, Linn.***Common Chrysanthemum.*

A weed in potato and turnip fields, &c. *A.* August, September.
Native, or possibly with us a colonist. Rather local.

1. On a farm rubbish-heap alongside the upper road from Disley to High Lane; *Webb*.
2. Plentiful about Bowdon; *Burt. G.* Bowdon; (*Miss M. Duncan, sp.*), *Hunt, Hb.* Rather local: Plentiful on Marston Hall Farm, and generally to be found on Tabley Lane End Farm. (Conspicuous by its absence from the whole of the Mobberley neighbourhood; *Holland.*)
4. *Flo. Liv.* seems to infer that this is not a very frequent plant in the district.
5. [Turnip-field near Edge Green: in some quantity; *A. H. Wolley Dod.*]

C. Leucanthemum, Linn.*Ox-eye Chrysanthemum.*

In pastures, meadows, on railway banks and waste ground. *P.* June to September. Native. Generally distributed. Personal records in 1, 2, 3, 4, 5, 6, 7; second-hand records in 1, 2, 4, 5, 6, 7.

C. coronarium, Linn.

A ballast casual. Native of the Mediterranean region.

4. Ballast, Seacombe; *Lewis, sp.*

MATRICARIA, Linn.**M. Parthenium, Linn.***Common Feverfew.*

The wastes about villages and farms, and exceptionally in waste places away from dwellings. *P.* July to September. Alien, often merely an escape. Uncertain distribution.

1. On beds of gravel, in mid-channel, and alongside the river Goyt, between New Mills and Furness: the most out-of-the-way-looking locality I ever saw the plant growing in, and its thoroughly "at home" appearance may warrant a doubt about the *Myrrhis*, which hereabouts is plentiful; *Webb*.
2. Sandy Lane, Bowdon; and Ashley; *Gr. Flo.* Bowdon; *Hunt, sp.* Not native: the best station with me being in Sudlow Lane on a rubbish-heap about a hundred and fifty yards from a cottage. I never saw it but in the most suspicious places.
3. Roadside near Beeston Station: evidently on a rubbish-heap; Dunham-on-the-Hill.
4. Occasionally in waste places near dwellings, but always a stray from gardens, and consequently localities not given in the Liverpool Floras. By Raby Pool.
5. The Greaves, Tattenhall.

M. inodora, Linn.*Scentless Chamomile.*

In waste places; newly broken and cultivated ground; also on shingle banks, and sloppy flats near to the sea. *A.* July to October. Native. Generally distributed. Personal records in 2, 3, 4, 5, 6, 7; second-hand records in 1, 2, 4, 5, 6, 7.

The "state" known to English botanists as *salina* occurs on the Red and Yellow "Noses" at New Brighton; Amongst shingle and upon the river-banks between West Kirby and Parkgate; Burton Rocks and Hilbre Island, sparingly; (*Webb*), *MS.* and *Flo. Liv.* About 1½ mile north of Parkgate, on a slip of "glareal" ground a little inland from the sandhills, several plants growing with *M. inodora*. On M. Duval-Jouve's principle, the ordinary plants would be "new-comers," as yet not modified by littoral influence.

M. Ohamomilla, Linn.*Wild Chamomile.*

In waste areas about farmsteads; in cultivated ground, and by roadsides. *A.* July to September. Not native. Local, or overlooked?

1. Local: Near Arden Hall; *Buxt. G.*
2. Cornfields near Rostherne; *Gr. Flo.* Roadside near Rostherne; *Hunt, sp.* Not uncommon: generally in farmyards and by roadsides; I have not yet found it in fields: *e.g.* Farmyard, Tabley Old Hall; Roadside by the Smoker Wood, on the Manchester road; Bowker's Farmyard, Aston, &c.
3. A roadside below Weaverham; Between Bridge Trafford and Dunham.
4. The term "frequent" is queried in the *Flo. Liv.*, but localities are not mentioned. Little Soughall; Great Mollington.
5. Waste ground by the roadside near to the farmhouse between Stretton and Barton; Lache Lane, Chester; Plemstall; Aldford; Milton Green. [Field at Tilston; *A. H. Wolley Dod.*]
6. By the roadside nearing Wrenbury village from the Station; About Audlem: but I omitted to take exact localities; *Webb.*
7. Waste ground by a farm past the bridge over the Wheelock, between Winterley and Ettiley Heath; *Webb.*

[Cotula coronopifolia, Linn.

Alien. An escape from cultivation.

1. In a ditch between Moreton and Leasowe; (*Searle and Bottomley*), also (*Bailey*), *E. C. Repp.* 1885 and 1886.]

TANACETUM, Linn.**T. vulgare, Linn..***Common Tansy.*

By watercourses, or in moist ground not far distant; also in hedges near villages and farmsteads. *P.* July, August. Native in a few stations. Rather uncommon.

1. Banks of the Mersey about Cheadle; *Buxt. G.*
2. Bowdon; *Hunt, sp.* Banks of the Mersey, especially about Carrington; *Buxt. G.* Local, and in many cases not native:

In the hedge just short of Flitto Gate Farm (escaped?); Plentiful in a hedge running north from Mrs. Barber's farm, Acton; Weaver banks below Acton Bridge; Near where railway crosses the Mersey to Warrington.

3. Frodsham Marshes; (*Robinson*), *App. Flo. Liv.* Weaver banks below Weaverham; Bruen Stapleford, south of Tarvin.
4. Amongst herbage on the clay banks of the River Dee, between Caldy and Heswell Shore Heath, in quantity, and with every appearance of being native: in other Wirral localities I know of, I should say not native; *Webb*. By footpath from Parkgate to Leighton; About Neston, and at Prenton; (*Brown*), *App. Flo. Liv.* By the side of the Chester road, between Rock Ferry and Bromborough; (*Miss Grundy*), *Flo. Liv.* About Storeton; and at Grange; *Brown*. Canal-side between Moston Bridge and Mollington; Thornton Hough.
5. Roadside near Goff's Heath; *Brown*. The left bank of the Dee in Eaton Hall Grounds, half a mile above Ford Bridge, in large quantity; *Newbould and Webb*. Dee bank, Chester. [Wych Brook: frequent; Hobb Hill; Gallantry Bank; Kidnal; *A. H. Wolley Dod*.]
6. Banks of the River Weaver near Shrew Bridge; *Brown*. By the ditches in the meadow behind Hough Mill, Wybunbury, and along the borders of the plantation occupying the site of Wybunbury Mere, in great abundance and thoroughly established; and of course looks native enough; *Webb*.
7. A lane-side in Lower Peover (not native?).

I believe that in only a small percentage of the localities where we may meet with this plant is it native: indeed, no inland station I have seen is beyond suspicion; and the action of water, it must be remembered, would facilitate its spreading along our principal rivers. *Senecio saracenicus* has so spread, and possibly *Myrrhis*.

ANTHEMIS, Linn.

A. *Cotula*, Linn.

Stinking Chamomile.

In cultivated fields and by roadsides and on rich waste ground. *A.* June to August.

2. Canal-side, Timperley, 1857; and Broadheath, 1862; *Hunt, sp.* The fields between Tabley Lane End and Knutsford; By Castle Mill, Ashley.
4. Given as Frequent in *Flo. Liv.* Near Raby Mill.
5. Tattenhall; Newton.

A. *arvensis*, Linn.

Corn Chamomile.

In cultivated fields,—cereal, fodder, and root. *A.* July, August. Colonist or alien. Rare.

1. Arable field at Hollingworth; *Baker and Webb*.
2. Very unusual, and appearing chiefly among clover; Fields on the top of Bowdon Downs, and below Bowdon Vicarage;

M

(*Hunt*), *Gr. Flo.* Meadow, Bowdon, June 1860, 1857, 1856;
Hunt, sps. Among turnips between the homestead of
 White House Farm and the small cover to its north.

4. Roadside between Thornton Hayes and Parkgate; (*J. Shillito*),
Supp. Dick. Flo.

5. Damp ground at Green Looms, near Waverton; *Brown, sp.*

Probably overlooked, and less rare than supposed, but only a
 colonist like *Centaurea Cyanus*.

ACHILLEA, Linn.

A. Millefolium, Linn.

Common Yarrow.

In pastures, hedge-banks, waysides, &c. *P.* July to September.
 Ascends to 1500 feet. Native. Generally distributed. Personal
 records in 1, 2, 3, 4, 6, 7; second-hand records in 1, 2, 4, 5, 6, 7.

A. Ptarmica, Linn.

Sneezewort Yarrow.

In stiff land pastures, waysides, edge of canals, and in waste ground.
P. July to September. Ascends to 1500 feet. Native. Generally
 distributed. Second-hand records in 1, 2, 4, 5, 6, 7.

ARTEMISIA, Linn.

A. Absinthium, Linn.

Common Wormwood.

In waste ground and by roadsides near gardens. *P.* August, Sep-
 tember. An escape? Extinct in any higher category? Shore?

4. The recorded localities stand thus: Bidston village, on some
 rubbish, sparingly in 1837; Poulton, near the Poulton
 Hotel; (*Dr. Dickinson*), *Hall, Flo.* Near Hoylake, but
 not common; (*Skellon*), *Dick. Flo.* The Bidston station
 destroyed by 1851; (*Dick. Flo.*). By hedges at the bottom
 of Bromborough Pool; (*Marrat*), *Flo. Liv.* I have no idea
 of the Wormwood being wild in Wirral, and am surprised
 to find that Dickinson does not mark it with any sign of
 doubt: all his localities are suspicious even by their word-
 ing, and to those who know the ground are decidedly so.
 I have, moreover, searched for the plant as indicated, and
 failed to find it both at Poulton and Hoylake; so I suppose
 these are now in the same category as the Bidston locality,
 which was destroyed previous to 1851. As to Bromborough
 Pool, the question is whether the name is not a slip for
A. maritima. I have come across it once outside a garden,
 and this was, as far as I recollect, near a cottage by the
 roadside between Grange and Newton Heath, but I did
 not think it worth while to make any definite record;
Webb.
5. Occurs in the rocky road-cutting out of Burton towards
 Coddington, originating without doubt from the garden
 above the road: I record this as the plant may possibly
 spread, and in the future be mistaken for having a higher
 grade of nativity than it will be entitled to; *Webb*.

A. vulgaris, Linn.*Mugwort Wormwood.*

In hedges, borders of fields, and waste ground by roadsides and river-banks. *P.* July to September. Native. Thin but general distribution. Personal records in 1, 2, 3, 4, 6, 7; second-hand records in 1, 2, 4, 5, 6, 7.

Occurs in all the districts, and away from home I generally returned with a record; but about Tabley it happens to be very local, the fields of Marston Hall above Budworth Mere being the best place in my home district.

A. maritima, Linn.*Sea Wormwood.*

Salt marshy ground. *P.* August to October. Native. Confined to a small coast area. Shore.

4. Wallasey and Bromborough Pools; *Hall, Flo.* It is doubtful if it now grows by Wallasey Pool: "It certainly did occur in some abundance near the upper part of Wallasey Pool about 1830. Hall himself knew but little of Botany: still his book may in general be trusted, because he took pains and consulted Mr. Shepherd and others;" *Watson, MS. notes.* I remember it growing in plenty before the last great alterations to Wallasey Pool, on muddy, marshy ground on the north side of the Pool, along with *Statice Limonium*, *Armeria*, &c.: this would be about 1858-60; *Webb.* Abundant close where Bromborough Pool meets the river, and thence to the bridge on the Eastham road, but less frequent above it.

Ambrosia maritima, Linn. A casual.

2. A single plant in a clover-field at Plumbley, near Northwich, Cheshire. I could, however, find no other aliens in the field to indicate whence this curious stray had reached us, but probably the clover-seed was Italian: the field was a lonely one, and removed from any horticultural influence; (*J. L. W.*), *J. of B.* vol. ix. p. 8.
4. A Birkenhead ballast plant, and has appeared in roads bottomed with ballast material; *Webb.*

Xanthium spinosum, Linn. A casual.

4. Has appeared as a ballast-plant at Birkenhead, but none of these introductions have held their ground for any length of time in my experience, much less spread abroad from their place of deposit; *Webb.*

FILAGO, Tournef.**F. germanica, Linn.***Common Cudweed.*

In dry fields, and on banks and rocky ground where the surroundings are ericetal. *A.* July to September. Native. Rare.

1. Gee Cross and other neighbouring places; *Sidebotham.*
2. Frequent in fields at Bowdon; *Wood, Flo.* Knutsford Race-course; (*T. Rogers*), *Phyt.* N.S. vi. p. 248.
3. On the high sandy land of the Frodsham district; *Robinson.* Railway-bank at Delamere Station; In a large field E.S.E. of Delamere Station; Sterile pasture, top of Helsby Hill.
4. About Oxton Moor and Bidston Heath, but not common;

Hall, Flo. Dry fields below Bidston Hill; West Kirby; Heswell; *Flo. Liv.* Amongst short turf by the roadside where the road widens a short distance out of Ness towards Burton (with *Trigonella*); *Webb and J. L. W.* I gathered the plant one year (1862) in good quantity on the sloping bank of a field below Bidston Hill, then first cleared for pasture: as the ordinary field vegetation increased it became scarcer, and does not now grow there, I believe: this and the Ness locality are the only two places where I have seen it in Wirral; *Webb.*

Curiously rare in Cheshire. I doubt its being "common" near Bowdon, and it certainly never occurred on Knutsford Racecourse during my time.

F. minima, Fries.

Slender Cudweed.

Broken heathy ground and on sandy gravelly commons, and the roadsides abutting on them. *A.* June to September. Native. Rather uncommon.

1. Near Arden Hall; Lindow Common and thereabouts; *Gr. Flo.* Red Lion Common, near Kermineham; Lindow Common.
2. Baguley Moor; Bowdon Moss and in the fields adjoining it; *Wood, Flo.* Knutsford Racecourse; *Buxt. G. ed. ii.* In the pits about the centre of Knutsford Racecourse; In the sandy lane leading across from Booth to Toft, sparingly.
3. Roadside near the Abbey Arms, Delamere Forest; Budworth Common; Dry sandy bank north from Crabtree Green towards Norley; Sterile pastures of Helsby Hill; Near Oulton Mill, S.; Railway bank, Delamere Station, and new-laid roads in the vicinity.
4. Very plentiful about Bidston village, Oxton Moor, &c.; *Hall, Flo.* New Brighton stone quarry, abundant; *Dick. Flo.* Frequent where the rock comes to the surface about Grange and West Kirby, and in plenty between Caldý and Grange; Heswell Shore Heath; *Webb.* Plentiful on the hill just above Heswell village.
7. Rudheath, on the side nearest Goosetrey; Plentiful along the roadside which runs from the "Three Greyhounds" and joins the Knutsford and Holmes Chapel road.

GNAPHALIUM, Linn.

G. uliginosum, Linn.

Marsh Cudweed.

Damp ploughed fields and broken ground, roadside wastes and hollows particularly where water has lodged during the winter, refuse heaps, &c. *A.* July to September. Native. Generally distributed. Personal records in 2, 3, 4, 6, 7; second-hand records in 1, 2, 4, 5, 6, 7.

G. sylvaticum, Linn.

Upright Cudweed.

Heathy fields, roadside banks and cops, and the margin of and open places in fir-woods, on a dry sandy gravelly soil. *P.* July to September. Native. Rather local.

1. Fields near Reddish Mill; *Buxt. G.* Near Stockport; (*Holme*)

- B. G.* Bank on the right-hand side of the lane from Great High Birch Farm, 80 to 100 yards before it enters the Pexhill road S.W. of Macclesfield; *Webb*.
2. Fields at Bowdon; *Buxt. G.* On the edges of Ashton Moss; *Gr. Flo.* In many places: The best station is Tabley Sandpit at Tabley, all one side of which is covered with it; Thence at intervals along the lane to Knutsford Race-course, where a few plants occur; Plentifully in a sandy field on Sudlow Farm, between it and Black Hill Farm; Again at Ollerton; and in a sandy lane leading from Booth to Toft; Lane-side between Smoker and Lennards Wood, Tabley.
 3. Overton in sandy places; (*Robinson*), *Flo. Liv.* Margins of Oakmere, and in a sandy field between it and the Abbey Arms.
 4. Not mentioned in *Hall, Flo.* Hills about West Kirby; *Dick. Flo.* A field on the east side of the Thurstaston road at the cross-roads to Caldy, Frankby Heath, and Grange; *Webb.* In the *Rhododendron* grounds at Bidston; and by the edges of the open plantations the field-way from Bidston Hill to the Cemetery, sparingly; (*Webb*), *Flo. Liv. and MSS.* Eastham; (*Fisher*), *Flo. Liv.* At Bromborough; (*T. Sansom*), *Dick. Flo.* On a sloping hard bare bank near a little stone delf, opposite the Candleworks at Bromborough Pool.
 6. Sparingly in one field crossed by the footpath from Wybunbury to Basford Station; *Newbould and Webb.*
 7. Dry banks by the roadside where the Holmes Chapel road cuts Rudheath, and about Rudheath: generally frequent on the dry cops of the fir plantations, to which this has a strong affinity; Again S.E. of the "Three Greyhounds."
- Thinly but generally distributed: requires sand to grow on.

G. dioicum, Linn.*Mountain Cudweed.*Grassy mountain moorland. *P.* July, August. Native. Rare.

1. Mountains above Staley, &c.; (*Bradbury*), *B. G.* Hollingworth, near Mottram; *Buxt. G.*

I have seen no specimens of this plant.

SENECIO, Linn.**S. vulgaris, Linn.***Groundsel Senecio.*

In cultivated and waste ground, on old walls, &c. *A.* January to December. Ascends to 1000 feet. Native. Generally distributed. Personal records in 1, 2, 3, 4, 6, 7; second-hand records in 1, 2, 4, 5, 6, 7.

S. sylvaticus, Linn.*Heath Senecio.*

On dry banks and friable sandstone rocks; the borders of woods on a heathy soil; drained peat land in process of cultivation, and heath and moorland where the vegetation has been cut and burnt. *A.* July to September. Native. Generally distributed. Personal records in 1, 2, 3, 4, 5, 7; second-hand records in 1, 2, 3, 4, 5, 6, 7.

S. erucifolius, Linn.*Hoary Senecio.*

In hedges and on the ditch-banks under them; on steep thickety hill brows; also at the borders of fields, but hardly ever in the plain of the field. *P.* July, August. Native. Generally distributed. Personal records in 1, 2, 4, 6, 7; second-hand records in 1, 2, 4, 5, 6, 7.

Certainly a more local species than either *Jacobæa* or *aquaticus*, but fairly dispersed through all the Hundreds. No record, however, from high East Cheshire.

S. Jacobæa, Linn.*Ragwort Senecio.*

In pastures, waste ground, by roadsides, and upon the coast sandhills. *P.* July to September. Ascends to 1300 feet. Native. Generally distributed. Personal records in 2, 3, 4, 6, 7. Second-hand records in 1, 2, 4, 5, 6, 7.

Supposed by "Farmer old-style" to be a test-plant of good Cheshire cheese-producing pasturage; but the prevalence of this species on the barren sandhills hardly bears out this theory.

S. aquaticus, Huds.*Water Senecio.*

In wet meadows and pastures, and by the sides of streams, ponds, and roadside ditches. *P.* July, August. Native. Generally distributed. Personal records in 2, 7; second-hand records in 1, 2, 4, 5, 6, 7.

S. saracenicus, Linn.*Broad-leaved Senecio.*

By the sides of rivers beyond tidal reach. *P.* July, August. Alien approaching denizen. Confined to very limited spaces. Plain.

2. Left bank of the Mersey, opposite Woolston and Bruch, near Warrington; (*Mr. W. Wilson*), *Bux. G.* Abundant in a field called Blinston's Holes, on the Cheshire bank of the Mersey, in Statham Eye, below Lymm, August 1859; *Add. Gr. Flo.* Lymm, August and September 1868; (*Bickham, sp.*), *Hunt, Hb.*

5. Banks of the Dee near Eaton Boat; (*Okell*), *Lys. M. Brit.* p. 415. On the banks of the Dee above Eaton Boat; (*Mr. Griffith*), *With. Arr.* ed. v. Near Chester; (*Okell*), *Smith, Eng. Fl.* [Abundant by the Dee above Farndon; *A. H. Wolley Dod.*]

I have seen this growing on the Lancashire side of Mersey, close into Warrington, somewhere opposite Latchford. Mr. Watson calls it "denizen," and on such terms we may admit it into the Cheshire flora, but I certainly do not consider it a true native.

S. viscosus, Linn.*Viscid Groundsel.*

P. Late Summer and Autumn. A casual in Cheshire.

1. Roadside from Northwich to Delamere Forest; (*Bradbury*), *B. G.*
3. On dry banks, walls, and rocks at Ince; (*Waring*), *B. G.* On a sandy bank at Overton, 1867, but now apparently destroyed; (*Robinson*), *Flo. Liv.*
4. A rather frequent ballast-plant at Birkenhead Docks; *Webb.*

Error in 1 and 3; but Waring is not in the slightest degree responsible. He communicates in his paper already referred to, "*Senecio hirsutus viscidus major odoratus*, *J. B.*," which has by mistake been made a synonym of *S. viscosus*, as, for instance, in *Smith. Eng. Fl.* Buddle's Catalogue and Herb. show that it represents *S. sylvaticus*. Mr. Bradbury's entry can be accounted for by the confusion that existed in *Senecio* names at the time when he botanised.

S. paludosus, Linn.*Marsh Senecio.*

5. By the eastern side of the Dee, just above Eaton Boat, sparingly; (*Waring*), *B. G.*

Mr. Waring says (*Phil. Trans.* lxi. p. 367), "*Conyza palustris serratif.* *C. B.*, *palustris major, Park*;" and here again some confusion of names has led to the undoubted error in *B. G.* In *With. Arr.* ed. v. (1812) we find under *Senecio saracenicus*, "On the banks of the river Dee above Eaton Boat, Mr. Griffith," and in *E. B.* this plant is again recorded as growing "Near Chester; Mr. Okell:" it is also included by the latter gentleman in his longish and generally correct list to *Lys. M. Brit.* (1810). The present inference is that *S. saracenicus* was formerly found near Eaton Boat, and that Waring had seen it there, and meant *it* in his paper.

Doronicum Pardalianches, Linn.*Great Leopard's-bane.*

2. By the side of a little stream between Knutsford and Toft, 1855; *Gr. Flo.* I saw the plant for several years in this station, which may be more definitely put as The hedge nearly opposite the Toft Lodge and its garden, about half a mile from Ollerton on the Chelford and Knutsford turnpike road.

Not native in England.

Galinsoga parviflora, Cav.

A native of South America, thoroughly established from Kew Gardens Station right up to Richmond [and elsewhere].

1. In a deserted arable patch near a cotton-mill at Micklehurst, 1874: casual on cotton-waste manure; *Baker and Webb*.

BIDENS, Linn.**B. cernua, Linn.***Nodding Bur-Marygold.*

Margins of ponds, marshy places, in shaded nearly dried-up pits, and in shallow ditches. *A.* July to September. Native. Generally distributed. Personal records in 2, 7; second-hand records in 1, 2, 4, 5, 6, 7.

Thoroughly at home and a characteristic plant of the pits of the plain of Cheshire, but less common in our littoral portions, and absent from the high levels.

Var. B. radiata, Sond.

1. Cheadle; *Watson*. [Lindow; (*Searle*), *E. C. Rep.* 1883.]
2. The west margin of Tabley Lake for many years running: one small patch; (still there 1874; *Leycester*).
3. Tarporley; *Hudson, Flo.*
5. [Abundantly in a pond close to Malpas; *A. H. Wolley Dod*.]

B. tripartita, Linn.*Three-cleft Bur-Marygold.*

Margins of canals, pits, and ditches, and on the mud and refuse heaps from the clearing of watercourses. *A.* July to September. Native. Generally distributed. Personal records in 1, 2, 4, 7; second-hand records in 1, 2, 4, 5, 6.

B. pilosa, Linn.

A North-American introduction.

1. Along with *Galinsoga* at Micklehurst: not less than 200 specimens *Baker and Webb*.

B. bipinnata, Linn.

A North-American introduction.

1. Seen together with *B. pilosa* (q.v.), and by the same observers.

INULA, Linn.**I. dysenterica, Linn.**

Common Fleabane.

In wet pastures, by ditch-sides, grass rides in woods, and other damp places, particularly on heavy land. *P.* July to September. Native. Generally distributed. Personal records in 2, 3, 4, 6, 7; second-hand records in 1, 2, 4, 5, 6, 7.

I. Helenium, Linn.

Elecampane.

B. Summer. Naturalised. [Mr. J. G. Baker considers it wild in Yorkshire.]

1. About old farm-houses; (*Bradbury*), *B. G.*
Formerly a good deal grown in gardens.

I. Conyza, DC.

Ploughman's Spikenard.

B. Summer. Native.

2. Between Sutton Bridge and Sutton Lock; (*John Harrison*), *Supp. Dick. Flo.*, where by mistake it is given under Lancashire, as there does not appear to be any canal near the Sutton south of St. Helens. An error, or at any rate requires confirmation.

Mr. Lewis includes this in a list of the Cheshire plants in the *Herb.* of the late Dr. Dickinson, the specimen being labelled "Near Frodsham, 1852 (*W. S.*)."

BELLIS, Linn.**B. perennis, Linn.**

Common Daisy.

Pastures, hedgebanks, meadows, roadsides, &c. *P.* All the year round. Ascends to 1750 feet. Native. Generally distributed. Personal records in 1, 2, 3, 4, 5, 6, 7; second-hand records in 1, 2, 4, 5, 6, 7.

ERIGERON, Linn.**E. acris, Linn.**

Blue Fleabane.

The coast sandhills and dry sandy banks and wastes generally near the sea. *A.* July, August. Native as a littoral plant. Rare, and as a native confined to a small tract. Shore.

2. Previously to 1842 grew on (the remains of) Sale Moor; *Buxt. G.*
3. Walls of Beeston Castle; (*J. E. Bowman*), *N. B. G.*
4. The sandhills at New Brighton; *Hall, Flo.* At Wallasey (*Watson*), *N. B. G.* I do not remember it excepting at or near New Brighton, and if it is a frequent plant in the Liverpool neighbourhood, especially on the Cheshire side, I have been singularly unfortunate in not meeting with it; *Webb.* Between Wallasey and Leasowe, say a mile from the former, by a little damp depression.
5. Waste on north side of the viaduct, Rood Eye, Chester.

E. canadensis, Linn.

Canadian Fleabane.

A. Late Summer, early Autumn. A North-American introduction.

Has only been seen with us as a ballast-plant, but may confidently be looked for in the course of a few years about the outskirts of our large towns: it has become one of the commonest weeds in and about London.

ASTER, Linn.**A. Tripolium, Linn.***Seaside Aster.*

Muddy salt marshes. *P.* August, September. Native. Frequent as a littoral plant. Shore.

2. Norton Marsh.
3. On the mudbanks below Frodsham and Helsby called Frodsham Score, very abundant.
4. On the shores of the Mersey and the muddy margins of Wallasey and Bromborough Pools, plentiful; (*Watson*), *N. B. G.*; *Flo. Liv. &c.* The occasional marshy patches by the Dee shore under Thurston: both the usual and the discoid forms occur here; *Webb*. Below Parkgate: extremely rank and fine growing in large beds, and the discoid form intermixed; Dee side, The Cop, Chester.
5. The Cop, Chester.

A. Novi-Belgii, Linn.

A garden escape.

2. Has maintained itself for many years in a plausible-looking corner of Tabley Lower Water; but has evidently blown or floated across some 200 yards of lake water, where there has been from very old times, a herb-garden; (*J. L. W.*), *J. of B.* vol. ix. p. 8.
5. Intermixed with *Epilobium hirsutum* in about equal proportion, the two forming the chief margin vegetation of a field-pit near to a farmstead midway between Coddington and Chowley; *Webb*.

SOLIDAGO, Linn.**S. Virga-aurea, Linn.***Common Golden-Rod.*

Dry sandy banks, woods, and thickets on a heathy soil, and rocky places in the sandstone districts. *P.* July to September. Native. Generally distributed. Personal records in 2, 3, 4, 7; second-hand records in 1, 2, 3, 4, 5, 6, 7.

TUSSILAGO, Linn.**T. Farfara, Linn.***Common Coltsfoot.*

On clay land, particularly about old brickfields, railway banks, waste places, pastures, roadsides, banks of rivers, &c. *P.* February, March, April. Ascends to 1750 feet. Native. Generally distributed. Personal records in 1, 2, 3, 6; second-hand records in 1, 2, 4, 5, 6, 7.

PETASITES, Gærtn.**P. vulgaris, Desf.***Common Butter-Bur.*

The banks of rivers and the neighbouring flats liable to overflows, and in damp cloughs and thickets near streams. *P.* April and May. Native. Local.

1. Near Stockport; *Holme*. Cheshire side of the Tame below Staleybridge, *Bradbury, B. G.* The bottom of Millbrook River bank at Northen; *J. L. W. and Hunt, sp.* Very common in the Disley neighbourhood up to about 800 feet: In a low field between Pott Shrigley and Bollington; *Webb*. Banks at the junction of the Etherow and Goyt.

2. Banks of River Birkin near Bowdon; *Hunt, sp.* On the banks of all the rivers about Manchester; *Wood, Flo., Buxt. G., and Gr. Flo.* Common, e.g. Waterless Brook-side in the Round and White Lodge Wood; Mersey banks below Warrington.
3. On a ditch-side at Godscroft, near Frodsham; (*Robinson*), *Flo. Liv.* On the opposite side of the road to Horn's Mill, half-way between Helsby Station and Dunham; *Newbould and Webb.*
4. The Wirral localities stand thus:—On the right-hand side of the road leading from Bidston village to Leasowe, about 100 yards beyond the public-house; *Hall, Flo.* Bidston Marsh, near Wallasey Church; (*J. Norton*), *Hall, Flo.* In *Dick. Flo.* the first locality is repeated: the second is not mentioned. *Flo. Liv.* states that the ground referred to at Bidston is now where the village school stands. Thus we have no existing locality in Wirral for this conspicuous plant. (I have constantly borne this plant in mind, and have never been able to meet with it in Wirral; *Webb.*)
5. Near the stream between Golbourne Belleau and Rushall Hall, about a mile N.W. of Tattenhall; *Newbould and Webb.* Near Plemstall churchyard.
7. About the Dane river at Congleton; *Watson, MS. notes.*

P. fragrans, Presl.*Sweet-scented Coltsfoot.*

An alien, naturalised in various parts of the country.

5. Naturalised in the Cathedral Yard at Chester, beside the city wall; (*Robinson*), *Flo. Liv.* Specimens hence 1866; *Hunt, Hb.*

EUPATORIUM, Linn.**E. cannabinum, Linn.***Common Hemp-Agrimony.*

In wet woods and cloughs, banks of rivers, and by the sides of streams and ditches. *P.* August, September. Native. Thinly distributed throughout. Personal records in 2, 3, 4, 7; second-hand records in 1, 2, 4, 5, 6.

Is not a plant of the high ground in East Cheshire; *Webb.*

CICHORIUM, Linn.**C. Intybus, Linn.***Wild Chicory.*

In cultivated fields and pastures. *P.* July, August. Casual; hardly colonist. Rare and uncertain.

1. [Amongst cornmill refuse, Staleybridge; (*J. Whitehead*), *R. C. Rep.* 1877: as "*C. divaricatum, Willd.*"]
2. Found occasionally about Bowdon in pastures and cultivated fields; *Wood, Flo.* Occasionally, and not to be depended upon, at Mobberley and Sale; *Gr. Flo.* Rose Hill, near Bowdon, July 1857; *Hunt, sp.* I have found it only three times in my home district: In a field of Clay House Farm, 1862, and in a field just above the Smoker Wood in the occupation of G. Dodson.

4. Once only mentioned in the Liverpool Floras from Cheshire, viz., Little Sutton; (*R. Slack*), *Hall, Flo.*
 5. The bank and edge of a field below Butter-back, near Chester: specimen shown to me by *Mr. G. Cross*.
 6. A single stout plant in an old pasture near Woodfall Hall, $1\frac{1}{2}$ mile N.E. of Audlem (1874); *Webb*.
 7. In a field by Bradshaw Brook, near Hulme Lane, 1866.
- Is not native, I believe, in our Flora's limits; but a mere introduction, like *Centaurea Cyanus*, *Thlaspi arvense*, &c.

LAPSANA, Linn.**L. communis, Linn.***Common Nipple-wort.*

By roadsides and in waste and cultivated ground. *A.* July, August.
Native. Generally distributed. Personal records in 1, 2, 3, 6, 7;
second-hand records in 1, 2, 4, 5, 6.

HYPOCHERIS, Linn.**H. glabra, Linn.***Smooth Cat's-ear.*

Fields and banks on a sandy soil. *A.* July, August. Native. In three stations.

2. Occasionally near Bowdon; *Buxton, G.* Abundant one year in a field near Bowdon; (*Buxton*), *Sidebotham, MSS.*
3. On a high grassy sloping bank by the lane-side which winds round the bottom of the hill on which Beeston Castle is placed, in that portion of the lane which lies S.E. of the Castle (in 1868).
4. "The miserable weather at Liverpool during the meeting of the British Association nearly prevented any botanising there. For a few hours one forenoon, Mr. Ball, Mr. Babington, and myself went under umbrellas to the Cheshire coast. The only things which I saw differing from the vegetation around Edinburgh were *Erigeron acris*, *Chlora perfoliata*, *Neottia spiralis*, *Helminthia echinoides*, and *Hypochaeris glabra*;" *Prof. Graham, Proc. Edin. Bot. Soc.* 1837-38, p. 37.

The Bowdon station is not wholly beyond suspicion. "In a field" has rather a "casual" sound, coupled with the occurrence in a suburban neighbourhood, and the fact of there being no other record for a large space of the county.

H. radicata, Linn.*Common Cat's-ear.*

Pastures, meadows, hedge-banks, and grassy wastes. *P.* July, August.
Native. Generally distributed. Personal records in 1, 2, 4, 6, 7;
second-hand records in 1, 2, 4, 5, 6, 7.

LEONTODON, Linn.**L. hirtus, Linn.***Hairy Hawkbit.*

Dry, sandy, gravelly, open pastures and banks, and on moors. *P.* July to September. Native. Rather generally distributed. Personal records in 2, 4; second-hand records in 1, 2, 4, [5], 6.

L. hispidus, Linn.*Rough Hawkbit.*

Meadows and pastures, and grass-covered railway banks and slopes. *P.* June to September. Native. Generally distributed. Personal records in 1, 2, 7; second-hand records in 1, 2, 4, [5], 6, 7.

L. autumnalis, Linn.*Autumnal Hawkbit.*

In pastures, and on roadside hedge-banks and grassy wastes. *P.* August. Ascends to 1750 feet. Personal records in 1, 2, 3, 4, 7; second-hand records in 1, 2, 4, 5, 6, 7.

HELMINTHIA, Juss.**H. echioides, Gært.***Bristly Ox-tongue.*

Roadside hedge-banks and wastes where the soil is deep clay. *P.* July, August. Native. Confined to a limited tract; chiefly shore.

4. On the road from Claughton to Upton; *Hall, Flo.* Hedge-banks by the roadside from Bidston to Hoylake, frequent; (*Skellon*), *Dick. Flo.* Common on clay land between Hoylake and Soughall Massie; (*W. Harrison*), *Ib.* Edge of Bromborough Pool, near the river; *Hall, Flo.* Lane leading from Moreton village to the shore at Lingham; *Brown.* I certainly cannot add to the localities enumerated in *Dick. Flo.*, and I question whether it can now be found between Claughton and Upton. I feel sure that it has decreased in quantity a good deal of recent years in the roads eastwards from Hoylake; indeed, the roads have been widened in many parts, and the old hedge-cops on which it grew replaced by neat stumps and rails and quick-set hedges. The immediate neighbourhood of West Kirby (*Flo. Liv.*) is not likely, as the plant thoroughly holds to the clay, but I believe I saw it about 1861 on the then grass-grown clay banks of the Dee, between West Kirby and Thurstaston: since the storm of February 1863 these banks have presented a surface of nearly bare clay; *Webb.* I saw one plant by the roadside from Bidston to Hoylake (as indicated in *Dick. Flo.*) on the right hand, and much nearer Bidston of the two, in September 1865; Clay-bank, Soughall road, out of Chester; In North Wirral, decreasing in quantity.
5. Near Mickle Trafford; *Manning.* [In some quantity in a turnip-field at Oat Hill: never seen elsewhere; *A. H. Wolley-Dod.*]

TRAGOPOGON, Linn.**T. pratensis, Fries.***Field Goat's-beard.*

In meadows, uncropped pasture ground, and on railway embankments. *B.* June to August. Native. Distribution imperfectly known.

1. On the railway banks between Stockport and Cheadle Station, just after leaving the tunnel, abundant; *Gatley Carrs; Gr. Flo.* The railway banks at Alderley Edge; *Brown.* Bank between the road wall and the railway, a quarter of

a mile from the Swan Inn, Newtown New Mills, towards Disley; *Webb*.

2. By River Bollin; *Hunt, sp.* (referred to *minor*). Below Bowdon old Church; In a field by the Bollin, between Ashley and Cotterill; *Gr. Flo.* A plant or two from Weaver side, just below Acton Bridge; Only a single plant from the hedge of a field near Peover Brook, at Plumbley, in the occupation of Mr. Sparks, near the *Poa nemoralis*.
5. Oulton; *Egerton*: I know not which form. [Occasional on railway banks; *A. H. Wolley Dod.*]
7. A single very large specimen, from a hedge on Widow Bailey's farm, Lower Peover.

T. minor, Fries.

Small-flowered Goat's-beard.

Dry pastures and grassy places near the coast. *B.* June to August. Native. Data deficient.

1. By the path from the canal to the railway crossing between Furness and Newtown New Mills; *Webb*.
3. Near Calveley Station; *Jebb*.
6. Several times seen in 1874 in fields near Audlem; *Webb*.

T. porrifolius, Linn.

Purple Goat's-beard.

B. Summer. A denizen.

5. A few plants on some waste ground by the ticket-collecting platform entering Chester Station from Birkenhead: has existed there for some time; (*Webb*), *Flo. Liv.* and *Sidebotham, sp.*

TARAXACUM, Juss.

T. Dens-leonis, Desf.

Common Dandelion.

Pastures, meadows, roadsides, &c., indeed in nearly every open situation; difficult to find only on a moist heath and in a dense wood. *P.* March to October. Native. Generally distributed. Personal records in 1, 2, 3, 4, 6, 7; second-hand records in 1, 2, 4, 5, 6, 7.

T. erythrospermum, Andrz.

Red-fruited Dandelion.

On the coast sandhills and dry sandy banks inland. *P.* May, June. Native. Probably thinly distributed.

3. Rocky bank between the Abbey Arms Hotel and Delamere Church; *Webb*. On a dry bank at Overton; (*Robinson*), *Flo. Liv.*
4. On the sandhills below Wallasey growing in the dry grassy hollows and about the clumps of *Ammophila*: easily recognised by its small-sized brick-red fruit, and deeply cut leaves; (*Webb, sp.*), *Flo. Liv.*

T. palustre, DC.

Marsh Dandelion.

In damp pastures and poor meadow-land. *P.* May. Native. Rare. Only certain on shore.

1. Marple Vale; *Buxt. G. ed. ii.* Frequent in the pastures on Werneth Low.

2. Rostherne Mere; *Buxt. G.* ed. ii.
4. In plenty and well marked in the damp part of a field called the Sanderoft at Claughton village; *Webb, sp.* Field north of Eastham Wood; (*Lewis*), *Sec. App. Flo. Liv.* Blacon Point shooting-range.
5. [By roadside near Duckington Farm; *Marshall, fide A. H. Wolley Dod.*]

LACTUCA, Linn.

L. muralis, Linn.

Lyrate-leaved Lettuce.

In cloughs and the margin of woods, shady hedge-banks, walls, and quarries. *B.* July, August. Ascends to 700 feet. Native. Rather local.

1. Woods near Marple; Reddish Vale; Early Banks Wood near Staleybridge; *Buxt. G.* Arden Hall; *Gr. Flo.* Bredbury Wood; *Sidebotham MSS.* The finest specimens I know overhang the encrusting well at Chadkirk; *Holland.* Very common in the Disley district; Walls, &c., from New Mills to Whaley Bridge; Quarry in Lyme Park, near the S.W. entrance; *Webb.* In a quarry and wood between Whaley and Disley, plentiful; Canal-path walls, &c.; Oakwood Mill near Chadkirk.
2. Clay bank by Bollin at Ashley; *Hunt, sp.* In Cotterill Wood, very plentiful; *Wood, Flo.* Ashley Woods; *Gr. Flo.* Rock Savage Woods; (*Robinson*), *App. Flo. Liv.* Stretton; *Warr. List.* On Tabley Park wall near the Red Lodge, Knutsford road; On the bridge at the White Lodge; In hedges near the Tile-pits at Marston, &c.; Banks N.W. from Norton Station; Hedge-bank, Ashley.
3. The corner of a small turn to the right in the lane from Hapsford Hall to Dunham before crossing the railway; *Newbould and Webb.* In Manley Lane, half a mile due east of the railway, and the same distance south of Dunham; *Webb.* Beeston Castle and Horsley Bath; Tarporley, sparingly.
4. Lane between Oxton and Woodchurch; (*Miss Grundy*). Hedge-bank near Pensby; (*Brown*), *App. Flo. Liv.* In St. Patrick's Wood, Bromborough; (*Miss Grundy*), *Flo. Liv.* By the side of the road a short distance beyond the village of Eastham on the way to Chester; *Shillito.* Near Hooton Station on the road to Parkgate; (*J. L. W.*), *Flo. Liv.* Wall and bank of a field next to Hooton Station, left of the railway; (*Marrat*), *Supp. Dick. Flo.* Hedge-banks at the entrance into the main road of the road from Puddington; The old Chester road close to the seventh milestone (from Chester); Between Lea Hall and Mollington Station; *Webb.* Goldworth Lane, between the south entrance to Stanney Wood and the main road a quarter of a mile to the westward; *Newbould, Brown, and Webb.*

5. [Rather common, Kidnal Hill; Bickerton Hills; Roadside near Edge Upper Millpond, and in Upper Wood about Tilston; *A. H. Wolley Dod.*]
6. Between Clannor Heath and the turnpike road, a mile due north of Wybunbury Church; *Newbould and Webb.*
7. Shady places about Congleton; (*Watson*), *N. B. G.* Entrance to Rode Park near Mow Cop Station, and in the adjoining woods; Near Hockerdill, a mile south of Congleton; *Webb.*

SONCHUS, Linn.**S. oleraceus, Linn.***Smooth Sow-thistle.*

Cultivated ground, roadsides and waste places. *A.* June to August.
Native. Generally distributed. Personal records in 1, 2, 4, 6, 7;
second-hand records in 1, 2, 4, 5, 6, 7.

S. asper, Hoffm.*Rough Sow-thistle.*

Cultivated ground, roadsides and waste places. *A.* June to August.
Native. Generally distributed. Personal records in 1, 2, 4, 6, 7;
second-hand records in 4, 5, 6.

Mr. Lewis found in a roadside at Tattenhall a form with partly glandular peduncles, of which I have seen specimens.

S. arvensis, Linn.*Corn Sow-thistle.*

In fields and cultivated ground, in and overtopping hedgerows, and by the sides of ditches. *P.* June to August. Ascends to 900 feet.
Native. Generally distributed. Personal records in 2, 4, 7; second-hand records in 1, 2, 4, 6, 7.

CREPIS, Linn.**C. setosa, Hall. fl.***Bristly Hawk's-beard.*

Amongst sown clover and Italian rye-grass. *A.* July, August. Alien, tending to colonist. Becoming rather frequent.

2. The Manchester Floras do not record it from the Cheshire portion of their district. Buxton found it in 1843 on the Lancashire side, and *Gr. Flo.* states that it has been seen every summer subsequent to 1847 "somewhere or other." Among clover on Tabley Lane End Farm (1869).
3. Field at Netherton, about 1860; *Fisher.*
7. Plentiful about 1868 among clover roots on Brates' farm, Lower Peover: began to appear much when *Trifolium hybridum* did.

This plant is "distributed" because this is evidently an instance of a species which, like *Erysimum cheiranthoides*, is reaching us from the south, and which, to judge by its position in the south, will year by year obtain a firmer hold upon the fields in our county.

C. virens, Linn.*Smooth Hawk's-beard.*

Dry waste places, hedge-banks, stubble fields, and cultivated ground. *A.* or *B.* July, August. Ascends to 1600 feet. Native. Generally distributed. Personal records in 1, 2, 3, 7; second-hand records in 1, 2, 4, 5, 6, 7.

[C. biennis, Linn.

Dry pastures, &c. *B.* June, July. Not native in Cheshire.

3. Delamere; (*J. C. Melvill*), *E. C. Rep.* 1879 (apparently introduced).]

C. paludosa, Moench.

Marsh Hawk's-beard.

Moist woods and cloughs, by the side of streams. *P.* July, August. Ascends to 700 feet. Native. Rare. Chiefly hills.

1. Near Marple; *Buxt. G.* This is the only Cheshire locality given in the Manchester Floras. Buxton mentions several Lancashire localities: Wood says "in all our swampy woods very common" (*Flo.* and *Phyt.* i. p. 280), and Grindon says "moist woods and cloughs, common." Early banks and Walker Wood, near Staley; (*Herb. Tinker, sp.*), *Baker* and *Webb*. By the watercourse in Crookley Wood, situate alongside the Altrincham Junction Railway, 1½ miles N.W. of Stockport; Very sparingly at the junction of the two cloughs above the new Stockport reservoir, near Disley; *Webb*. Apethorne Wood, near Hyde: in a boggy patch above the bank of the stream.
3. The glen near the River Weaver below Bradford Mill, say 1½ miles N. of Over; (*Anon.*), *Phyt.* N.S. iii. p. 249.
4. In a ditch a mile east of Parkgate, September 1853, sparingly; (*Shillito*), *Supp. Dick. Flo.* I never saw Mr. Shillito—he was before my time,—but I believe that he gave some of our local botanists specimens of *Crepis paludosa* from the Parkgate locality, and, as far as I understand, the ditch was cleared and the plant lost shortly afterwards; *Webb*.
5. [Locally plentiful: Duckington Brook; Between Edge and Malpas Station; *A. H. Wolley Dod.*]

HIERACIUM, Linn.**H. Pilosella, Linn.**

Mouse-ear Hawkweed.

On dry sunny hedge-banks and slopes in open pastures; on wall tops, &c. *P.* May to August. Ascends to 1750 feet. Native. Generally distributed. Personal records in 2, 3, 4, 7; second-hand records in 1, 2, 4, 5, 6, 7.

H. vulgatum, Fries.

Common Hawkweed.

On banks, walls, and rocks; in dry woods and quarries. *P.* July, August. Native. Generally distributed. Personal records in 1, 2; second-hand records in 1, 2, 4, 5, 7.

[Var. glaucovirens, Dahlst.

5. Hillside beyond Gallantry Bank; *A. H. Wolley Dod.*]

H. tridentatum, Fries.

Three-toothed Hawkweed.

Dry hedge-banks, lanes, and skirts of woods. *P.* June to August. Not native. In two old stations.

2. Near Bucklow Hill; *Buxt. G.* Timperley; *Buxt. G.* ed. ii. "I have met with it occasionally near Manchester as at Timperley, Partington, &c.;" (*Windsor*), *Fl. Crav.* p. 46.

Mr. Watson writes, "Bucklow Hill, Cheshire, August 1847. Dr. J. B. Wood. Sent to me as *H. rigidum*. But 'me' has not added his own name, and H. C. W. cannot now say who was 'me' twenty-eight years ago."

H. umbellatum, Linn.

Narrow-leaved Hawkweed.

Hedge-banks, and by roadsides where the surroundings are ericetal, e.g. on dry cops fringing heaths, and upon the coast sandhills. *P.* August. Native. Thinly distributed.

1. At intervals in the hedge-banks of the lane between Great High Birch Farm and the Pexhill road, S.W. of Macclesfield; *Webb*. Roadside near Offerton Green.
2. Near Bowdon Church; Near Dunham Park; *Wood, Flo.* Rostherne; *Buxt. G.* Bowdon, near the Grange Farm; (*Hunt*), *Gr. Flo.* Rather local, but not uncommon in my home district: In all the lanes leading to and from Bexton Hall; About Tabley it is the prevalent *Hieracium*; Also about the field-hedges near the Tile-pit, Marston; A few plants on the Bank Fence in Sudlow Lane.
3. Newchurch Common.
4. On the sandhills from Hoylake to New Brighton, being abundant at the last named; *Hall, Flo.* and *Dick. Flo.* The sandhills just outside Hoylake to the north.
5. Bickerton.
6. Waste heathy ground with several pits on it at Clannor Heath, near Wybunbury; *Newbould* and *Webb*. On the boundary cops in proximity to Blackwater Moss, N.E. of Audlem; *Webb*.
7. Plentiful in lanes E. of Peover Heath Cover which lead back towards the mill.

H. boreale, Fries.

Broad-leaved Hawkweed.

Dry hedge-banks, edges of heaths, in dry thickets and woods, and on the coast sandhills. *P.* July to September. Native. Generally distributed. Personal records in 1, 2, 4, 6, 7; second-hand records in 1, 2, 4, 5, 6, 7.

H. aurantiacum, Linn.

Orange Hawkweed.

P. Early Summer. A naturalised alien.

1. Hedge-bank on south side of road ascending from Staleybridge towards Mottram: not much of it, but wild-looking, though of course introduced; *Baker and Webb*.

H. murorum, Fries.

Wall Hawkweed.

P. Early Summer. Native, but not admitted by Mr. Watson for Cheshire. Error?

1. Rocky banks of the Goyt, about half a mile below Marple Aqueduct; *Buxt. G.*
2. On rocky ground and walls slightly covered with crumbling earth about Lymm; *Gr. Flo.*
3. Frequent about Frodsham; (*Robinson*), *Flo. Liv.*
4. Old walls at New Brighton, New Ferry, &c., not uncommon;

N

Dick. Flo. The New Brighton "Noses" plant is *H. vulgatum*.
Flo. Liv.

These records require confirmation. The plant I saw on the rocky banks of the Goyt was certainly only *H. vulgatum*.

H. prenanthoides, *Vill.*

Rough-leaved Hawkweed.

P. Late Summer. Native. Error?

Railway bank near Frodsham: a single plant; *Robinson, sp.*

This sub-alpine species is very unlikely, even as a railway-bank casual; and some confusion or mixing of specimens has probably taken place.

CAMPANULACEÆ.

JASIONE, *Linn.*

J. montana, *Linn.*

Sheep's-bit Jasione.

Dry heathy banks and pastures, hedges and wastes where the sandstone rock comes to the surface and the surroundings are ericetal, and on the coast sandhills and sandy ground in proximity. *A.* or *B.* July, August. Ascends to 750 feet. Native. Thin but general distribution. Personal records in 2, 3, 4, 7; second-hand records in 1, 2, 3, 4, 5, 6.

Phyteuma spicatum, *Linn.*

Spiked Rampion.

P. May, June. A doubtful native: casual in Cheshire.

2. Casual at the river-side at Miss Bell's school, near Northwich; *L. Grindon.*

CAMPANULA, *Linn.*

C. latifolia, *Linn.*

Giant Campanula.

In cloughs and shelving woods; also on the banks of rivers and streams where the vegetation is plentiful and luxuriant. *P.* July, August. Ascends to 500 feet. Native. Thinly distributed. Hills and plain.

1. Near the rivers Mersey and Tame at Stockport; (*Holme*), *B. G.* Arden Wood and woods in Reddish Vale; Marple Wood; *Buxt. G.* In the valley of the Tame, and on the banks of the Goyt below Strines; *Gr. Flo.* By the River Goyt a little to the south of the hand-rail bridge that crosses it between Furness and New Mills; *Webb.* The wooded higher terrace of Gatley Carrs.
2. Steep wood by Ashley Mill; *Hunt, sp.* Cotterill Wood, *Buxt. G.* Abundant about Bowdon; Lymm (in the lane leading from Thelwall to the Powder Mills; and Mobberley; *Gr. Flo.* Rostherne; *Sidebotham, MS.* Lower Walton; *Warr. List.* Rock Savage Woods; (*Robinson*), *App. Flo. Liv.* Not uncommon along Waterless Brook from near Flitto Gate Farm (and probably higher) to its junction with Peover Brook; Notably a quarter of a mile below the White Lodge, and generally some plants just under the bridge over Waterless Brook on the Manchester road; Wood near Booth Mill, Knutsford; Lennards Wood, Tabley.

3. Between Cattenhall and Acton Viaduct, E.S.E. of Frodsham; *Brown*. Some distance down the vale below Darnhall, south of Over; (*Anon.*), *Phyt. N. S.* iii. p. 249.
5. Near the Dee, N.W. of Huntington Hall, near Chester. [Planted in Edge Woods: not seen in a native station; *A. H. Wolley Dod.*]
6. Brookwood, near Church Minshull; *Jebb, sp.*
7. Here and there by Peover Brook, especially at the bottom of the New Fox Covert, Lower Peover.

Rather a frequent plant in North Cheshire. I have never seen it "septal" with us, to which Mr. Watson joins "sylvestral." It likes a stream near, or in its neighbourhood at least. Evidently thins out towards the west.

C. rapunculoides, Linn.

Rampion-like Campanula.

P. Summer. Naturalised. Local.

2. Near the Grange Farm, Bowdon, 1862: "becoming quite naturalised;" *Hunt*. Naturalised in hedges about Dunham, Ashley, and in Bowdon Vale; (*Hunt*), *Gr. Flo.* It perpetually reappears in and about a privet hedge in Tabley kitchen-garden, where it was certainly never planted, and shows great tenacity of existence; Lane leading to canal from St. Margaret's Church, Altrincham: evidently spread from a neighbouring garden.

C. Trachelium, Linn.

Nettle-leaved Campanula.

P. Autumn. Native.

2. Aston Wood, Aston, July 1851; (*John Harrison*), *Supp. Dick. Flo.*
- [5. Plentiful in Wyches; Crewe Hill, Farndon; *A. H. Wolley Dod.*]
7. In a wood near Brookhouse Moss; (*Sidebotham*), *Gr. Flo.*

C. rotundifolia, Linn.

Harebell Campanula.

On dry banks, heaths, heathy pastures, and grassy wastes amongst the sandhills. *P.* July to September. Ascends to 1750 feet. Native. Generally distributed. Personal records in 2, 3, 4, 7; second-hand records in 1, 2, 4, 5, 6, 7.

C. Rapunculus, Linn.

Rampion.

B. Summer. A denizen which strays easily and maintains itself.

2. Has become weed-like about Tabley kitchen-garden.

Specularia hybrida, A. DC.

Venus' Looking-glass.

A. Summer. Casual in Cheshire.

4. In 1867 amongst corn in a field between Hoylake and West Kirby; (*H. E. Smith*), *Flo. Liv.* The *Specularia* has not been seen since 1867, I believe: the field in question is one of two or three noted for the "casual" productions in their cereal crops; *Webb*.

WAHLENBERGIA, *Schrad.***W. hederacea**, *Reichb.**Ivy-leaved Campanula.*

On the moist banks of streams. *P.* July, August. Ascends to 600(?) feet. Native. Rare. Hills.

1. About two miles beyond Mottram, on the right bank of the River Etherow, near Hague Bridge; and in other situations on the same stream; *Buxt. G. (vide infra).*
3. At the head of a small rivulet in Snidley, near Frodsham; (*Robinson*), *Flo. Liv.* Mr. Robinson tells me that it has now disappeared "through drainage."

(*Campanula Cymbalariae foliis, vel folio hederaceo. Bauh. Ger. Emac.* Tender Ivy-leaved Bell-flower, Ivy-Bells. Found on a watery bank, where little or no grasse grew, in a lane near Woodhead, in Cheshire; *How. Phyt. Brit.* p. 19 (1650).

VACCINIEÆ.**VACCINIUM**, *Linn.***V. Oxycoccus**, *Linn.**Cranberry.*

On the mosses, particularly on the sphagnous portions, and on the wet parts of elevated moorlands. Trailing shrub. June, July. Ascends to 1750 feet. Native. Thinly distributed, except on shore. Hills and plain.

1. Moors near Stockport; (*L. Howard*), *B. G.* Sparingly in damp places on the moorlands in the neighbourhood of the "Cat and Fiddle" (1750 feet), but easily overlooked: the best place for quantity is swampy ground at the head of Shooter's Clough; Thinly scattered over Danes Moss, near Macclesfield, and fairly plentiful there between the rifle-butts and the S.W. border; *Webb.* Hills above Crowden; S.W. side of Lindow Common, abundant.
2. On all the mosses about Manchester; *Buxt. G.* and *Gr. Flo.* Common on Carrington Moss; Holford Moss; Rostherne Mere; Gale Bog.
3. Blakemere and Oakmere; *Brown.* In a square patch of moss between the Abbey Arms and Oakmere; Hatchmere, north swamp, sparingly; Flaxmere; Eddisbury Lodge swamp.
4. It will be observed that this, in common with other and generally rarer moist peat-moss plants, is absent from Wirral. The only ground in the peninsula at all likely to produce plants of this category seems to be the portion of Heswell Heath under Oldfield, which, though already carefully searched, would be worthy of further investigation before its character is altered by drainage, &c.
5. [Bickerton Hill; *A. H. Wolley Dod.*]
6. Wybunbury Moss; *Webb and Thompson.* Brankelow Moss, Combermere.

7. Congleton and Eaton Mosses; (*Watson*), *N. B. G.* I fear it is lost from Congleton Moss through drainage and cultivation: the *Andromeda* only just manages to exist; *Webb* (1874). Just reaches this district on Holford Moss; Plentiful on Brookhouse Moss.

Between forty and fifty years ago large quantities of the berries used to come into the market at Congleton. I have myself gathered them in that neighbourhood; but of late years the drainage of the mosses will have rendered them scarce; *Watson*, *MS. notes*.

V. *Vitis-idaea*, Linn.

Cowberry.

On dry rocky moors and heaths, usually at a considerable elevation. *Sh.* May, June, and sparingly to September. Native. Rare. Hills, and some isolated plain eminences; one shore locality.

1. Abundant on old slate (flag?) quarries on Staley Moors; (*Bradbury*), *B. G.* Windgather Rocks; (*F. Astley*), *N. B. G.* Moors about Staleybridge; *Wood, Flo.* Very fine and plentiful on moor above the Brushes, N.E. of Staleybridge: patches 20 feet across, with *Empetrum*, descending to 200–250 yards; *Baker and Webb*. Mill Clough, Stake Clough, and Shooter's Clough, all in the neighbourhood of the "Cat and Fiddle," and scattered over the intervening moorlands; Also upon Shining Tor from 1000 feet to summit; Moorland N.W. of the large plantation on Whaley Moor, above Long Side road; *Webb*. A few years ago, to my astonishment and delight, I came upon a solitary but fine plant on Lindow Common, the Mobberley side: I thought I could have found it again easily, but have never since been able to drop upon it; *Holland*. Cobden Edge, Strines; *Hunt, sp.* Windgather Rocks, Taxal; *Astley List*. Plentiful some way up great Crowden Brook; all along the hillside called Small Crowden Rakes.
3. Plentiful on Peckforton Hill.
4. "Opposite Liverpool, found by Mr. Shepherd;" *With. Arr.* ed. iv. (1801). This doubtless refers to:—Side of Bidston Stone-quarry, plentiful; *Hall, Flo.*; and the same place twelve years later, but "scarce;" *Dick. Flo.* The ground it grew upon has now for fifteen years been covered with refuse from the quarry, and the plant has not been met with elsewhere in the Hundred; *Flo. Liv. and Webb MS.*, 1874.
5. Broxton; *Egerton*. On Bickerton Hill, but less thickly than on Peckforton Hill.
7. Mole-Cop; Congleton Edge; and The Cloud: being three hills near Congleton; (*Watson*), *N. B. G.* Thinly dispersed over Congleton Edge and the Mow Cop ridge: noted in three distant localities, 1874; *Webb*. Very plentiful on the steep escarpment of The Cloud, near Congleton; *Holland*.

V. Myrtillus, Linn.*Bilberry.*

On heaths and heathy land where there is free drainage; either in the open or in woods, and indifferent to altitude in our range. *Sh.* May, June. Ascends to 1837 feet. Native. Generally distributed. Personal records in 1, 2, 3, 4, 5, 7; second-hand records in 1, 2, 4, 5, 7.

Mr. Watson in his "Outlines" says: "Apparently unfrequent in the south-eastern counties, becoming very common as we advance northward. This is one of the species that, if allowed, would overrun Britain, and form with *Calluna vulgaris* and *Empetrum nigrum* much of the natural physiognomical character of its vegetation."

ERICACEÆ.

ARCTOSTAPHYLOS, Adans.**A. Uva-ursi, Wimm.***Common Bearberry.*

Elevated rocky moorlands. *Sh.* Early Summer. Native. No certain record.

1. On the hills betwixt Cheshire and Yorkshire, near Greenfield; (*Bradbury*), *B. G.* Kinder Scout; (*L. Howard*), *B. G.* Near Mottram; *Wood, Flo.* Seal-bark, Greenfield; *Buxt. G.* Hills above Tintwistle and Rawtenstall; *Gr. Flo.* A fine specimen in fruit marked "1853, almost eradicated in this district;" (*Herb. Tinker*), *Baker and Webb*.

No doubt occurs near our N.E. border, but does it actually get on Cheshire ground? Tinker does not state where his specimen was collected, and some of the Flora localities look like guesses.

ANDROMEDA, Linn.**A. polifolia, Linn.***Marsh Andromeda.*

On peat mosses and in damp open parts of the upland moors. *Sh.* May, June, and August, September. Ascends to 1800 feet. Native. Thin distribution, except shorewards. Hills and plain.

1. Moors near Stockport; (*L. Howard*), *B. G.* Sparingly dispersed over the wet moorland in the neighbourhood of the "Cat and Fiddle," showing best by the sides of the drains; Between Shining Tor and Cat's Tor, sparingly, 1800 feet; By the side of the Congleton road, shortly after crossing the boundary from Derbyshire; On Danes Moss, near Macclesfield; *Webb*. On Lindow Common, as fine as anywhere in Cheshire.
2. On all the mosses about Manchester; *Wood, Flo.* On every peat-moss in my home district; Knutsford Moor; Carrington Moss; Holford Moss.
3. Oakmere and Blakemere; *Brown*. Achmere; (*Robinson*), *L. N. J.* In a square patch of moss between the Abbey Arms and Oakmere; Hatchmere, north swamp, sparingly; Flaxmere.

6. Alsager; *Garner, N. H. Staff.* Wybunbury Moss; *Newbould and Webb*, also *Fraser and Thompson, sps.*
 7. Congleton Moss; (*Watson*), *N. B. G.* Still there, but in very small quantity, nearly the whole area being now in cultivation, 1874; *Webb*. The farther end of Holford Moss; Sparingly on Brookhouse Moss.
 A very general and characteristic plant of a Cheshire moss.

ERICA, Linn.**E. Tetralix, Linn.***Cross-leaved Heath.*

On damp heaths and moors, and on moorlands in scattered patches.
Sh. July, August. Native. Generally distributed. Personal records in 1, 2, 3, 5, 6, 7; second-hand records in 1, 2, 4, 6, 7.

E. cinerea, Linn.*Fine-leaved Heath.*

Heaths and moors, growing in large masses. *Sh.* July, August.
 Native. Generally distributed. Personal records in 1, 2, 4, 7; second-hand records in 1, 2, 4, 5, 6, 7.

CALLUNA, Salisb.**C. vulgaris, Salisb.***Common Ling.*

Heathland, moors, commons, and mosses. *Sh.* July, August. Native.
 Generally distributed. Personal records in 1, 2, 3, 4, 5, 6, 7; second-hand records in 1, 2, 3, 4, 5, 6, 7.

Var. β. incana, Auct.

1. Alderley Edge; *Buxt. G.*
2. Hale Moss; *Ib.*

PYROLA, Linn.**P. media, Swartz.***Intermediate Winter-Green.*

Upland heathy ground. *P.* July, August. Ascends to 600? feet.
 Native. One old station. Hills.

1. In the neighbourhood of Mottram; *Buxt. G.*

P. minor, Linn.*Lesser Winter-Green.*

Wooded upland mosses. *P.* July. Native. One old station. Hills.

1. Woods at Tintwistle, and on both sides of the Etherow in Longdendale; (*Herb. Tinker, sp. labelled as P. rotundifolia*), *Baker and Webb*.

OLEACEÆ.

FRAXINUS, Linn.**F. excelsior, Linn.***Common Ash.*

Hedgerows and woods; evidently planted in most cases. *T.* April, May. Native. Generally distributed. Personal records in 1, 2, 3, 6, 7; second-hand records in 1, 2, 4, 5, 6, 7.

We specially noticed the Ash as looking quite spontaneous in the deep-banked clough between Micklehurst and Millbrook, but

it is very much less common in the Staleybridge district than the Oak; *Baker and Webb*. Not even in the natural wooded cloughs of the Disley district; *Webb*. At Oats Syke Clough, the Huddersfield road, near Woodhead, it looks quite wild, its associates being Nut, Birch, Mountain Ash, and *Prunus Padus*.

LIGUSTRUM, Linn.

L. vulgare, Linn.

Common Privet.

A common component of hedges; planted in coverts as a protection for game and as an undershrub in border plantations. *Sh.* June, July. Alien, planted. Frequent?.

1. A large quantity in tall hedges from Dan Bank to Rose Hill Station; *Webb*. Near Disley, planted.
2. Cotterill Clough, abundant; Between Sale and Carrington Moss, but doubtfully wild; *Gr. Flo.* Not included in *Wood, Flo.* or *Buxt. G.* Much in the category of *Cornus sanguinea* in my home district; common in the coverts, but always, I believe, introduced as a good evergreen protection for game.
4. Entered as seen near Parkgate and about Puddington, but not native.
5. Commonly used as a hedgerow plant; *Webb*. Hedge above Lea Hall Farm, near Aldford; Ridge's Lane, Rowton.
6. A common hedgerow plant in this Hundred.
7. Hedges at Lower Peover in the old and new Fox Covert.

VINCA, Linn.

V. major, Linn.

Larger Periwinkle.

Garden escape. Native of Southern Europe. By the roadside about a mile from Eastham towards Thornton; (*Miss Archer*), *Flo. Liv.* Near Frodsham; (*Gibson*), *lb.*

V. minor, Linn.

Lesser Periwinkle.

Naturalised in woods and shady places. *P.* May, June. Alien; often a mere garden escape. Rare?.

1. In woods near Marple; (*Wood*), *Phyt. i.* (1842), p. 283. Wood near Marple Bridge, plentiful, *Gr. Flo.* (The same locality meant, probably.)
2. Bowdon, 1860: "seems naturalised in one or two places;" *Hunt.* Near Cotterill Wood; *Buxt. G.*, ed. ii. The Denna; *Warr. List.* "Without a doubt truly wild in Appleton Dingle;" (*Robinson*), *Comp. Cyb. Brit.* Part iii. p. 612. These two last are not unlikely the same locality.
5. [About Edge Wood; Simmonds Lane; About Horton; *A. H. Wolley Dod.*]

Spreads readily in a wood when once planted, *e.g.* in Tabley Garden Wood I can show examples many yards from any sign of human habitation. It has overrun a wood of considerable extent.

[*Amsinckia lycopsoides*, Lehm.

Among refuse from a cornmill near Staleybridge; (*A. Wood*), *R. C. Rep.* 1877.]

GENTIANÆÆ.

ERYTHRÆA, *Renealm.****E. latifolia, Sm.***

"Cheshire, *G. Gordon, sp.* (Rather *E. Centaurium* ?)" *N. B. G.* "Formerly in Cheshire?" *Comp. Cyb. Brit.* p. 248.

The deceptive broad-leaved variety of *E. Centaurium* is probably the plant referred to, as has been the case in all the other English records of *latifolia* excepting those applying to the Lancashire south coast; (*vide* Syme, *E. B.* vol. vi.). This variety—the *β. pseudo-latifolia* of *Lond. Cat.* ed. vi., and *β. "latifolia"* of ed. vii., grows in perfection on Hilbre Island and is an interesting plant.

E. littoralis, Fries.

Narrow-leaved Centaury.

Dampish grass-carpeted flats and hollows amongst the coast sandhills. *A.* or *B.* July, August. Native. Rare, and confined to a limited tract. Shore.

4. To a botanist used to the sight of this plant in the quantity in which it occurs on some parts of the Lancashire sandhills, as for instance about Formby and Ainsdale, it is both scarce and diminutive on the Cheshire coast: I have seen it sparingly from New Brighton to Wallasey, and I think Leasowe, but at the moment have no recollection of noticing it farther westward: in flowering, this is at its best when *E. Centaurium* is passing off; *Webb.* New Brighton, Hoylake, and Hilbre; New Brighton is the only Cheshire station given in the three Liverpool Floras.

E. Centaurium, Pers.

Common Centaury.

In poorish pastures and grassy margins of roadways, especially on the clay; in commons, wastes, and in fields near the coast. *A.* or *B.* July, August. Native. Generally distributed. Personal records in 2, 3, 4, 7: second-hand records in 1, 2, 3, 4, 5, 6, 7.

Mr. Watson's Mersey province is the head-quarters of this genus in England.

E. pulchella, Fries.

Slender Centaury.

Dampish wastes and "common" ground near the sea, where the soil is pretty well consolidated. *A.* or *B.* July, August. Native. Confined to a limited tract. Shore.

3. At Helsby, very sparingly; (*Robinson*), *Flo. Liv.*
4. Among the sandhills at Hoylake and New Brighton, rare; (*Skellon*), *Dick. Flo.* Abundantly in moist hollows of the common at Leasowe; (*Smith*), *Proc. Hist. Soc. N.S. i.* (1861). From 1864 to 1868 in the greatest profusion over a large tract of made land (formed with the soil excavated from Wallasey Pool when it was converted into the "Great Float") that lies on the right hand of the road from the Dock Cottages, North Birkenhead, to the Halfpenny Bridge, and extends eastward as far as the Canada Works: now (1873) comparatively scarce, other vegetation taking

possession of the soil: the plate in *Syme E. B.* (No. 910 *bis*) is from a specimen gathered in this locality; (*Webb*), *Flo. Liv. and MSS.* In the lane from Newton Heath to Beacon Hill, near the place where bye-lanes branch off right and left; *Webb*. A short distance along the road from Hoylake to West Kirby, on the right-hand side, where the sod has been cut from the grassy margin; *B. M. Watkins and Webb*. Near where the road to West Kirby emerges on Hoylake Racecourse, 1867; Among the short turf on Hilbre Island.

CHLORA, Linn.

C. perfoliata, Linn.

Perfoliate Yellow-wort.

Scattered about the pastures, the edges of the pits, and the roadside wastes and hedgebanks throughout the stiff-clay districts; and frequent but uncertain on grassy flats, amongst the coast sandhills. *A.* or *B.* July, August. Native. Thinly distributed.

1. Alderley, in a pasture under the Edge, and about Mobberley; (*Holland*), *Gr. Flo.* Stiff upland pastures between Bosley and the canal: not seen elsewhere in the Hundred; *Webb*.
2. In various places about Ringway; *Wood, Flo.* Near Ros-therne; *Buxt. G.* ed. ii. On a steep bank near Castle Mill, Cotterill, fine and abundant; In an old cow-lane at the lower end of Cotterill; *Gr. Flo.* Steep clay bank, Castle Mills, 1859; *Hunt, sp.* Generally but thinly distributed in my home district; stations numerous, but seldom many plants growing together. Becomes most gregarious on the meadow banks above and near the junction of the Waterless and Peover Brooks opposite Winnington Wood; Grows to an unusual size (eighteen inches) on some pit-edges N.W. of Lennards Wood; The railway bank between Halton Station and the tunnel.
3. Pastures north of Over; (*Anon.*), *Phyt. N.S.* iii. p. 247. Spurstow, south, by a pit off the road.
4. Fields from New Ferry to Parkgate; (*Bradbury*), *B. G.* By the Mersey, near Seacombe; (*Watson*), *N. B. G.* Occurs on the sandhills, and on the shores of the Mersey; *Hall, Flo.* (and this in substance is stated by the two later Floras). As far as my observation goes, the *Chlora* is a plant of the clay banks on either side of the peninsula, and is dispersed over the inland clay districts. It grows pretty freely on the dunes and sandy wastes near to the coast: I have gathered it upon Little Eye, but have not seen it on either of the larger Hilbre Islands, nor have I met with it in the country about Stoke and Stanney in the south-east; *Webb*. Near Hoylake; With *Linum angustifolium* at Gayton; Close to the outlet of Bromborough Pool; Field near the canal-side between Moston Bridge and Mollington; On hard waste ground at Hooton Station; Blacon Point.
5. By the roadside under Hampton Hall, near Malpas railway

station; *Webb*. "Rake Side," Saughton. [Rather common in the Malpas district; *A. H. Wolley Dod*.]

6. Banks of the stream about a quarter of a mile south of Ravensmoor Bridge, near Nantwich; *Brown*. In a clay pasture before reaching College Field Farm from Buerton; By the roadside between Frith Hall and Ganton's Bank, two miles west of Wrenbury; *Webb*. Fields between Wrenbury and Combermere: apparently frequent.
7. About the old quarries by Limekiln Farm, near Mow Cop; *Webb*. Not common: On Widow Bailey's farm, Lower Peover.

"In a small specimen I have seen from Cheshire the leaves are quite distinct and cordate at base, being probably the *var. β. minor* of DC., and *var. β. pusilla* of Gaudin;" *Bromfield, Fl. Vect.* p. 309, (1856).

GENTIANA, Linn.

G. Pneumonanthe, Linn.

Marsh Gentian.

On the moist and boggy portions of heaths. *P.* July to September. Native. Rather rare.

1. Wimslow Common; (*Rev. W. Brownlow*), *Gr. Flo.* Formerly abundant on Wood's Moor, Bramhall, now destroyed through cultivation; *Ib.*
2. Baguley Moor (*Mr. Christy*), *Buxt. Br. Bot.* iii. (1837), 185, and (*Robert Leyland, sp.*), *Watson, Hb.* Plentiful on Baguley Moor; *Wood, Flo.* Grows upon a bank separating that portion of the moor which is applied to the cultivation of the strawberry from the remaining portion; *Buxt. G.* Nearly if not quite extinct; *Gr. Flo.* Bartington Heath, with white flowers; *Crosfield Cal.* (1810), p. 30. (Probably extinct there now.) On Runcorn Heath; *Davies*.
4. Not uncommon about Parkgate; (*Mr. Griffith*), *B. G.* On the commons near Parkgate; (*Okell*), *Lys. M. Brit.* Heaths near Bidston; (*Watson*), *N. B. G.* Heaths above Tranmere; (*Miss Beck, sp.*), *ib.* (This specimen refers to about 1830; *Watson*.) Destroyed in last named place by 1838; *Hall, Flo.* Abundant on Oxtan Moor, Bidston Heath, &c.; *Hall, Flo.* Heswell Hills; (*Miss E. Potts*), *Ib.* (The only addition to *Hall, Flo.* in the later Liverpool Floras is that *Dick. Flo.* after Heswell Hills says, "and along the banks of the Dee," which is not likely.) From various sources I gather that this pretty plant is considerably less common on the heaths near Birkenhead than it used to be, and indeed this must necessarily be the case from the changes induced by enclosure and drainage: on parts of the Heswell range it still grows very fine; *Webb*. Oxtan Heath; (*Lewis*), *Hunt, Hb.* I have gathered this at Heswell in some peaty ground not far from *G. Amarella*. [*Thurstaston Moss*; *A. H. Wolley Dod*.]
7. In a marsh on a heath near Holmes Chapel; (*Mr. Hunter*), *With. Arr.* ed. iv. (1801). (Rudheath is probably referred to in this record.) Plentiful on Rudheath at its N.W.

corner by the "Three Greyhounds." I have also found one or two plants on the heath's Goosetrey side. I believe it occurs in many other places on this heath.

G. Amarella, Linn.

Autumnal Gentian.

Upland and mountainous pastures and on heathy pasture-patches near the coast. *A.* August, September. Ascends to 1750 feet. Native. Rare. Hills and shore.

1. Abundant on a bit of waste ground near the drawbridge over the canal between Disley and Strines; (*Sidebotham*), *Gr. Flo.* In a barren pasture above Disley, between the cottages below "Stone Ridge" and the Stockport new reservoir works; The close turf on either side the road between the "Cat and Fiddle" (1750 feet) and the Derbyshire boundary; Pasture adjoining the north boundary wall of the large plantation on Whaley Moor, above Long Side road; Pasture above Shutlings Low House; *Webb.*
4. Heswell Hills; (*Miss E. Potts*), *Hall, Flo.* Moist meadows, New Brighton; *Dick. Flo.* The *Flo. Liv.* says, "In pastures and sandy ground near the sea; frequent," but query, does this rightly express the state of the case as regards the Cheshire coast? I doubt it. On the hillside about 300 yards above the village at Heswell.

G. campestris, Linn.

Field Gentian.

Sandy pastures near the coast, grassy flats amongst the sandhills, and upland pasture ground. *A.* July to September. Native. Rare. Hills and shore.

1. In a high pasture above Staley Hall, called Flax-field; (*Bradbury*), *B. G.* On Harrop Edge and Quick Edge, near Staleybridge; Werneth Low, near Hyde; (*J. Tinker*), *Buxt. G.*
2. Tatton Park near Knutsford; (*A. Atkin*), *B. G.* (Probably extinct here.)
4. Sea-coast, Cheshire; (*Mr. Crowe*), *With. Arr.* ed. ii., i. p. 263 (ascribed to *Ray* in *B. G.*) Near Hyle-Lake (Hoylake) and Parkgate; (*Okell*), *Lys. M. Brit.* Very abundant in grassy spots on the coast from New Brighton to Hoylake; *Hall, Flo.*, and the two later Floras testify to the same effect, moderating the general term, however, to "frequent." Heswell Hills; (*Miss E. Potts*), *Hall, Flo.* Field on the left-hand side of the lane from the Hill Houses to the shore opposite Little Eye: usually in large quantity; *Miss Todd.* A plant of the sandhills, *e.g.* a quarter of a mile west of New Brighton; and between Wallasey and Leasowe.

MENYANTHES, Linn.

M. trifoliata, Linn.

Common Buckbean.

Boggy margins of pits and ponds, swamps, and spongy mosslands. *P.* May to July. Native. Thin even distribution.

1. On Lindow Common, plentifully; *Buxt. G.* Lindow Common.

2. On Hale Moss, abundantly; *Wood, Flo.* and *Hunt, sp.* 1857. Roosterne Mere; *Buxt. G.* Bowdon; Mobberley; *Gr. Flo.* Frequent: Pits in Burghs Meadow, Tabley Park; Between Sudlow Lodge and the Serpentine.
3. Achmere; (*Robinson*), *L. N. J.* p. 197. In several of the swamps on Newchurch Common; Hatchmere; Oakmere.
4. Very frequent in pits in Wirral, as at Hoylake; Bebbington; Sutton, &c.; *Dick. Flo.* In a good many old pits about Hooton and Ledsham; *Brown.* Raby; *Webb.* Near Bromborough.
5. Margin of pits just beyond the canal on the road from Waverton to Stapleford; *Brown.* [Rather common: Edge Park; Below Whitney Lane Farm; Horton; *A. H. Wolley Dod.*]
6. Wybunbury Moss; *Webb.* Combermere.
7. A pit on the Crown Farm, Lower Peover.

LIMNANTHEMUM, Gmel.

L. nymphæoides, Link.

Yellow Buckbean.

Naturalised in lakes. *P.* July, August. *Alien.* Introduced. *Local.*

3. Bogs in Delamere Forest; (*Okell*), *Lys. M. Brit.* Superabounds in the pool at Oulton, where I remember it all my life: I wish it would "pair off" here with *Anacharis Alsinastrum* and disappear altogether: I never saw it anywhere else in this neighbourhood; *Egerton.*

POLEMONIACEÆ.

Polemonium cœruleum, Linn.

An escape from gardens.

- 2 or 3. "I have found this in Cheshire, but must confess that it generally looks suspicious;" (*J. F. Robinson*), *Comp. Cyb. Brit.* p. 612.
4. In Raby Wood: two specimens from four to five feet high, growing close to the brook-side, and there is no dwelling-house within three quarters of a mile—in fact, a more retired spot it would be difficult to find; *Higginson.*

CONVOLVULACEÆ.

CONVOLVULUS, Linn.

C. arvensis, Linn.

Small Bindweed.

Dry waysides and hedge-banks; light cultivated ground and sandy wastes, especially towards the coast. *P.* June to August. *Native.* Unequal distribution. *Rare inland.*

1. In a field near the left bank of the Mersey, between Northern and Cheadle; *Buxt. G.* Empshaw Lane, Stockport, on a sandbed by the turning at the "Shakspeare" Inn for Offerton; (*I. Williamson*), *Gr. Flo.*
2. About Bowdon, common; *Wood, Flo.* By the river Mersey,

near Hollins Ferry; *Buxt. G.* Sandy lane by Bowdon Church.

3. Between Frodsham Station and Overton Church; Opposite Portal Lodge, Tarporley.
4. On a bank between Denna Colliery and Burton Point, but only seen in one place; *Webb and J. L. W.* Common and general: *e.g.* about Hoylake; Bidston road; By the cottage that stands on the Marsh near Wallasey Pool; Eastham; Parkgate. The three Floras state it to be "common."
5. The lane between the south gates of Chester College and the Canal; *Newbould.* Lane by Flookersbrook, N.E. of Chester; *Lewis, sp.* Abbot's Grange.
6. Cornfield between Wrenbury Railway Station and the village, close to the latter; *Brown.* Hedge-bank in the lane, half way between Buerton Mill and the road-crossing at Buerton Moss; *Webb.*

So curiously local and rare in inland Cheshire, that its distribution is worth tracing carefully.

C. sepium, Linn.

Great Bindweed.

Hedges in moist or rich ground; the skirts of woods, and amongst bushes by ditches, in gardens, and waste places. *P.* July, August. Native. Generally distributed. Personal records in 2, 3, 4, 7; second-hand records in 1, 2, 4, 5, 6.

Not a common plant in North Wirral; *Webb.*

C. Soldanella, Linn.

Sea Bindweed.

The coast sandhills. *P.* June to August. Native. Rare. Confined to a small littoral tract. Shore.

4. Shore below "Dee Inn," West Kirby; (*Marrat and I. Byerley*), *Proc. Liv. L. and P. Soc.* vol. xv. (1861), p. 12. New Brighton sandhills; (*Dr. Collingwood*), *Ib.* p. 14. Sandhills, Wallasey; (*Lewis*), *App. Flo. Liv.*
- I should judge that this plant spreads over about a rood of ground on the sandhills, at the exit of the lane from the Hill Houses upon the shore directly opposite to Little Eye, but it may lie, living and deep buried, through a much larger extent: in 1873, from a change in the surface sand conformation, it was much more apparent than I had seen it previously, and where, from the breaking away of the shore edge of the sandhill, a sort of section was shown, the long and strong underground stems might be traced for yards: I have not seen the north shore localities; the appearance of the plant there would be much more dependent on the state of the wind; *Webb, MS.*

CUSCUTA, Touref.

C. Trifolii, Bab.

Clover Dodder.

Parasitic upon clover. *A.* June to August. Introduced with clover seed. Uncertain in appearance. Rare.

1. In a clover field at Bredbury; (*T. Coward*), *Gr. Flo.* Mr. D.

Jolliffe, Secretary of the Staleybridge Naturalists' Club, has seen specimens gathered near Wimslow.

2. I have seen this amongst clover in Mobberley two or three times—of course introduced with the seed. It always dies out: our climate probably does not suit it, and I think, as farmers, we never need fear its permanent introduction; *Holland*.
7. This grew in patches all over a clover field of the Crown Farm (Mr. Caldwell's), Lower Peover, about the second field from the road, west side, in 1865; It grew in 1866 in a similar field near the "Three Greyhounds" at Rudheath.

C. *Epithymum*, Murr.

Ambiguity: confusing nomenclature.

4. Parasitic on heath at Bidston Hill; *Dick. Flo.* Same station ascribed to *C. europæa* (J. Shillito), *Fisher in Proc. Hist. Soc.* vii. (1855) p. 169. There is no specimen of *Cuscuta* from Bidston Hill in Herb. Dickinson, and after repeated searches at Bidston for ten years or more, I have not met with it, nor have I heard of it being found by any of our present local botanists; the records, too, are very confusing when looked into; *Webb, MS.*
7. Upon oats at Peover and Baguley, 1858; (*Mr. Worthington*), *Gr. Flo.* (Mr. G. does not state the author of the specific names he uses.) Probably *C. Trifolii*, *Bab.*, which, as already mentioned, is found at Peover, and is more likely to be the parasite in a cultivated field.

C. *europæa*, Linn.

Great Dodder.

Parasitic upon *Vicia*. A. June to August. Introduced with seed. One record. Shore.

4. Fields at Woodchurch, on *Vicia sativa*, August 1869; *Miss Grundy, sp.* Has been found in Cheshire, but is rare; (*Holme*), *B. G.* This being, of course, an old and indefinite station. See also under *C. Epithymum*.

SOLANACEÆ.

SOLANUM, Linn.

S. *Dulcamara*, Linn.

Woody Nightshade.

In hedges and thickets where the soil is dampish, and amongst the shrub vegetation bordering ponds, pits, and ditches. *Sh.* June, July. Native. Generally distributed. Personal records in 1, 2, 3, 4, 7; second-hand records in 1, 2, 4, 5, 6, 7.

S. *nigrum*, Linn.

Annual Nightshade.

Sandy banks and waste land (especially about villages) near the sea, and sporadically in light soil inland, either garden or uncultivated. A. July to September. Native as a littoral plant. Rare and uncertain inland. Shore.

2. About Baguley Moor; By roadsides near Bowdon; *Hale Moss* on the side next to Altrincham; *Wood, Flo. and Buxt. G.* Once or twice as a casual in Tabley kitchen-garden.

4. On the west side and north-west corner of Wirral it is frequent, and sometimes abundant (near to the coast), but does not get inland, nor have I any recollection of it south of Burton. I have gathered it somewhat east of that village at (say) $1\frac{1}{2}$ mile from the old banks of the river. *Webb*. All the Floras state that it is frequent near to the coast. Plentiful near Hoylake: *e.g.* near my *Carduus tenuiflorus* station; Road to West Kirby, &c.; Roadside between Parkgate and Neston, abundant, &c. Evidently general.
5. Mr. Cross showed me a fresh specimen, and said that the plant appeared yearly as a weed in his garden at Boughton Road, Chester.
7. In the Rev. J. Holmes' garden, Lower Peover: casual.
So unusual and uncertain inland in Cheshire, that it would be safer to consider this common southern weed only native here as a sub-littoral plant.

HYOSYAMUS, Linn.

H. niger, Linn.

Common Henbane.

Along the shore where the shingle forms a bed up to the slopes of the sandy coast-land, and on light dry wastes inland. *A.* or *B.* June to August. Denizen or native. Rare. Shore.

2. In Bowdon Churchyard; *Wood, Flo.* Extinct before 1859; *Buxt. G.* ed. ii. and *Gr. Flo.* Halton Castle, near Runcorn; *Gr. Flo.* Very dubious: In Tabley kitchen-garden many specimens come up annually in a spontaneous condition.
3. In fair quantity just under one of the defences of Beeston Castle in 1871, a short distance up the hill and away from the path: as far as I could judge, it appeared native, as no garden nor other introduced plants were near; *Brown*.
4. Shingle near to the gravel-pit on the north side of Burton Point: twenty or thirty plants scattered over say a hundred yards of beach; *Webb and J. L. W.* 1873. At the back of the sandhills at New Brighton; (*A. Higginson*), *Hall, Flo.* Sparingly in Wallasey Churchyard; (*Skellon*), *Dick. Flo.* Plentiful about Hoylake; (*Harrison*), *Ib.* In the yard of the Methodist Chapel at Hoylake; (*Miss Grundy*), *Flo. Liv.* Along the shore at Heswell; (*T. Sansom*), *Dick. Flo.*, and at Parkgate; (*Skellon*), *Ib.* From all accounts the plant does not now exist in some of the above stations. Mr. Brown informs me that it used to grow north of Parkgate towards Gayton Cottage, and on the sandhills beyond; Also near the colliery at Denna; "I suspect, however," he adds, "all these localities are now destroyed."

As a littoral plant it may possibly be considered "guardedly native." The inland stations are clearly spurious.

Datura Stramonium, Linn.*Lord Zouche's Thorn-Apple.*

Casual.

Dispersed with manure and through transplanting garden plants. It is found about manure and compost heaps, in garden ground, and on roadside wastes. Reported from:—1. Cross-road between Chorley and Chelford; (*Holme*), *B. G.* 2. Sometimes upon waste ground at Bowdon, by the roadside below the church; *Wood, Flo.* and *Buxt. G.* Potato-fields, Altrincham, 1859; *Hunt, sp.* Maintains itself each year as a weed in Tabley kitchen-garden; comes up anywhere in an extent of two acres, year after year. 4. Met with occasionally; the last I saw were some yard-high plants upon manure heaps in a field below the Hill Houses, West Kirby; *Webb*. [New Brighton, *A. H. Wolley Dod.* 5. Casual at Edge Farm; *Id.*]

Lycium barbarum, Linn.*Lord Bute's Tea-plant.*

Spreads from gardens.

Mentioned in *Flo. Liv.* as establishing itself in hedges as an escape from cottage gardens, and Mr. Webb says this is the case about (4) West Kirby, where it has progressed a good distance in some cases from the original place of planting, but that it shows no signs of propagating by seed. [Captain A. H. Wolley Dod notes this plant as growing (5) by the roadside near an old garden at Duckington.]

Physalis Alkekengi, Linn.

Extinct casual.

(*Solanum vesicarium* *Halicacabum, Trag.* *Alkekengi, Lon.* Hath been observed . . . by Mr. Parker of Stockport in Cheshire in severall places of that country, wilde; *How, Phyt. Brit.* (1650), p. 115, and repeated *R. Syn.* iii. *Ind. Pl. Dub.*)

SCROPHULARIACEÆ.

VERBASCUM, Linn.

V. Thapsus, Linn.*Great Mullein.*

On dry cops and banks, and in and below raised hedges; on grassy wastes and banks near to the coast. *B.* July, August. Native in a good proportion of its stations. Thin, even distribution.

1. Occasionally at Stockport; Finest on the banks of the railway near Disley; *Gr. Flo.* Near Mottram.
2. Upon hedge-banks between Baguley Moor and Ringway; About Bowdon; *Wood, Flo.* and *Buxt. G.* A plant by the willow-bed, west end of Pickmere Mere; A plant on the roadside near a cottage at Millington: I do not guarantee its nativity; Between Halton Station and the tunnel.
3. Dan Bank road, Beeston Castle, sparingly; High roadside bank, Tarporley, N.E.
4. Hedges and roadsides near Hoyle, frequent; (*W. Harrison*), *Dick. Flo.* Along Parkgate shore, abundant; (*Skellon*), *Ib.* Hedges and hedge-banks by the side of the lane from Puddington to the old Chester road: a very satisfactory and native-looking station; and on Burton Rocks and the cops northwards to the colliery; *Webb and J. L. W.* Now and again along the lane a third of a mile south of Ness to Haddon Hall; *Webb*. A few plants in Goldworth Lane, approaching Stanney Wood; *Newbould*. I have generally

seen a few plants about "Tam o' Shanter" cottage by the footway from Bidston Hill to the Cemetery entrance; Along the Dee north of Parkgate it does not now grow plentifully, but occurs now and again on the river-banks, in the fields above, and on the shore heath below Heswell; *Webb*. In a hedge near the coast half a mile south of Parkgate.

5. Roadside at Hampton Post; Bickley, &c.; *Brown*. Hedge-bank between the turn to Bradley and Bradley Bridge, a mile S.E. of Malpas: a single plant only seen; *Webb*. Top of Bickerton Hill.

6. Sparingly by the roadside from Crewe to Wybunbury, between Shavington and the cross-roads a short distance to the south; *Webb*. A small plant at the turn in the road between Wrenbury Station and Wrenbury; *Webb*.

A rare plant in Inland Cheshire, and nowhere in the county exactly common.

V. virgatum, Stokes.

Large-flowered Mullein.

A casual in waste and cultivated ground. *B.* or *A.* July, August. Alien or casual. Rare and uncertain.

1. Bredbury: escaped from cultivation: 1858; (*Coward, sp.*), *Hunt, Hb.*
2. Copse by Blackmoor Wood Hall, near Aston; *Lewis, sp.* Twenty or thirty plants appeared in a clover-field in Plumbley, near Northwich, in 1868 and 1869: in 1870 the field was already ploughed up when I visited it.
3. Near Delamere; *Jebb*.

V. Lychnitis, Linn.

Oy. In Cheshire?

Between Chester and Wrexham; (*Rev. W. Wood*), *B. G.* (in Cheshire List). About Gresford (*Waring, &c.*) and elsewhere in the neighbourhood of our county boundary, but there is no definite record of its occurrence within the same.

V. Blattaria, Linn.

If not misnomer, an extinct casual.

1. Between Stockport and Reddish; (*Holme*), *B. G.* *Oy.* In Cheshire? Near Atherlow (Hatherlow); *Buxi. G.* From the date it is likely enough that in the first locality *V. virgatum*, Stokes, was the plant found, for which, prior to *With. Arr.* ed. ii., the name *Blattaria* would of course be used. *V. Blattaria* was, however, a plant grown in gardens.

SOROPHULARIA, Linn.

S. aquatica, Linn.

Water Figwort.

In wet ditches, and by the sides of brooks, rivers, and canals. *P.* July, August. Native. Generally distributed. Personal records in 2, 6, 7; second-hand records in 1, 2, 4, 5, 6.

Remarkable forms coming under this have been observed by Mr. Webb and myself on the left-hand side of the lane from Little

Neston to Neston Station, and by the former in the field-ditch, alongside the plantation, below and on the east side of Wybunbury Church.

S. nodosa, Linn.

Knotty-rooted Figwort.

Moist hedge-banks and ditch-sides; damp, wooded cloughs, groves, and woods. *P.* July, August. Ascends to 1000 feet. Native. Generally distributed. Personal records in 1, 2, 3, 7; second-hand records in 1, 2, 4, 5, 6, 7.

DIGITALIS, Linn.

D. purpurea, Linn.

Purple Foxglove.

In hedges, in dry pastures, and on heathy, rocky, and sandy banks and wastes. *B.* or *P.* June to August. Ascends to 1500 feet. Native. Generally distributed. Personal records in 1, 2, 3, 4, 5, 6, 7; second-hand records in 1, 2, 4, 5, 6, 7.

LINARIA, Tournef.

L. Cymbalaria, Mill.

Ivy-leaved Toadflax.

Naturalised on old walls. *P.* May to October. Alien or denizen. Rather local.

1. On the roadside at Bank-Top, near Stockport; (*Holme*), *B. G.* Garden walls at Addington (Addington); (*Bradbury*), *Ib.* At Bramhall; (*I. Williamson*), *Gr. Flo.*
2. On rubbish on Knutsford Racecourse: and profusely in the latticed brickwork of the forcing-beds in Tabley kitchen-garden.
3. Beeston Castle.
4. About Hooton Hall, abundant; (*Skellon*), *Dick. Flo.* Still there, 1874; *Brown*.
5. Outside a garden wall at Coddington on the way to Aldersey Hall; *Webb*. Boundary wall of Newton Hall stables, Chester; Chester city walls. [Edge stable-road; Roadside at Duckington; Rather frequent on old walls, &c., about the district; *A. H. Wolley Dod.*]

I think the distribution ought to be given: it is now quite established. At Rome it looks just as bad a native as in Cheshire.

L. Elatine, Mill.

Oy. Dying-out native or casual?

4. About Parkgate, rare; (*E. Sansom*), *Dick. Flo.* A plant or two picked by the colliery rubbish heaps south of Parkgate; not seen since. The question is whether this was an outlying station for the plant, or whether it had somehow got introduced from a neighbouring Welsh county. It extends northwards to Lancashire and Yorkshire.

L. triphylla, Mill.

A ballast plant.

4. In a new-made road at Claughton; (*Webb*), *E. C. Rep.*, 1861, and *Comp. Cyb. Brit.* Part iii. p. 542.

L. vulgaris, Mill.

Yellow Toadflax.

In hedges and about the borders of fields; also on sandy wastes near to the coast. *P.* July to September. Ascends to 400 feet. Native. Generally distributed. Personal records in 1, 2, 3, 4, 5, 6, 7; second-hand records in 1, 2, 4, 5, 6, 7.

[ANTIRRHINUM, Tournef.]**A. Orontium, Linn.***Corn Snapdragon.*

A colonist. A. July to October.

Amongst fodder, Cheshire; (*M. Ward*), *R. C. Rep.* 1877, p. 219.]**Mimulus luteus, Linn.**

Either planted or a garden escape.

1. In three or four spots on the banks of the Goyt in Marple Vale; *Gr. Flo.*
2. In a wide and deep ditch at Dunham Woodhouses in large quantity and very luxuriant; *Holland.*

"The Manchester Field Naturalists are annually reminded that they may add greatly to the beauty and interest of the surrounding country by taking with them when they are setting out on rambles any surplus roots or seeds they may possess, or be able to collect, especially seeds of native plants that do not grow wild in the neighbourhood," &c. *Vide* L. H. Grindon, "*Summer Rambles*," p. 32.

LIMOSELLA, Linn.**L. aquatica, Linn.***Common Mudwort.*

In shallow ponds and meres, showing in dry seasons upon the uncovered or barely covered mud. A. July to September. Low grounds. Native. In four existing stations. Plain and shore.

2. On the borders of Mere Mere, near the road which separates it into two parts, as well as in other situations; (*J. Crowther*), *Wood, Flo. and Buxt. G.* In a shallow muddy pond near the pound on Knutsford Racecourse. I did not notice it there till 1865. This pond dried in September 1867, and on taking Mr. Bloxam there, we found many thousand specimens left exposed. I also saw it the same dry season at Mere Mere, near the *Elatine* (*q.v.*).
3. Brought me from near Frodsham; (*Bradbury*), *B. G.*
4. Margin of Raby Mere; (*Fisher*), *Proc. Liv. L. and P. Soc.* xv. p. 12; and a record on the same authority in the previous vol. (xiv. p. 30), namely, "Mudbanks in a large pit some distance south of Bromborough," doubtless means the same locality.
6. The mud of a dried-up pond or plash on Hankelow Green, 1874; *Webb.*

VERONICA, Linn.**V. hederifolia, Linn.***Ivy-leaved Speedwell.*

Cultivated ground on a light soil, sandy roadside wastes, and cleared hedge-bottoms. A. April to June. Native. Generally distributed. Personal record in 2; second-hand records in 1, 2, 4.

My personal records are singularly scanty, but the plant is chiefly prominent in Spring, when I botanised little.

V. polita, Fries.*Fries' Garden Speedwell.*

In garden ground, rich loamy cultivated fields, and light soil wastes. A. April to September. Ascends to 900 feet. Native. Unequal distribution.

1. As a weed in gardens about Bredbury; *Sidebotham, MS.* Garden

- potato-ground by the roadside at Dean (or Dane) Bank, between Disley and Higher Disley; *Webb*.
2. Near Bowdon, 1844; *Sidebotham*, MS. In many localities (round Manchester) in cultivated ground; *Buxt. G.* ed. ii. Waste ground, Bowdon; *Hunt*, sp. Nursery field at Plumbley; Quite as common in Tabley kitchen-garden as *V. agrestis*; Bunbury, W.
 4. Bidston roadside, between the hill and the church; (*Marrat*), *Supp. Dick. Flo.* By the roadside passing through and close to Frankby; (*Webb*), *Flo. Liv.* I have seen *V. polita* once in Wirral, and then only in small quantity, growing at the base of a roadside wall: I had not the opportunity of examining the adjoining garden ground: possibly it requires a soil different from that of this Hundred; *Webb*. By Raby Mere.
 5. Near Chester; (*J. B. Wood*), *Dick. Flo.* The garden of a small cottage-shop in Aldford, near to the entrance to Eaton Hall grounds; *Newbould and Webb*. Nursery ground, Chester. [Lowcross Mill; *A. H. Wolley Dod*.]
 6. The base of Wybunbury Churchyard wall, west side, very sparingly; *Webb*.
 7. Rev. J. Holmes' garden, Lower Peover.

I believe this is fully as general as *V. agrestis*, yet with the uncertainty that attends some portions of the county, and the comparatively short time since this species was carved out of *agrestis*, I have judged it best to give the distribution.

V. agrestis, Linn.

Common Garden Speedwell.

In cultivated fields, garden ground, and light soil wastes. *A.* April to September. Ascends to 1000 feet. Native. Generally distributed. Personal records in 2, 4, 7; second-hand records in 1, 2, 4, 5, 6, 7.

V. Buxbaumii, Ten.

Buxbaum's Speedwell.

A weed in gardens or their immediate neighbourhood. *A.* May to September. Alien becoming colonist. Rare.

1. In the garden at Rose Hill, Northen, sparingly, 1858; *Gr. Flo.* Flower-bed in the garden of a house on the right-hand side from Whaley Bridge to the outflow of the Reservoir, 1874; *Webb*.
2. I found this plant in 1847 in considerable quantity in a lane at Sale; *Buxt. G.* At Sale in 1858 plentifully, and at Ashton-upon-Mersey; *Gr. Flo.* By the side of a field near Bow Green, Bowdon, 1870; *Hunt*, sp.
3. Wall by a farmhouse in Ince.
4. Naturalised about Soughall Massie; (*H. E. Smith*), *Proc. His. Soc. N.S. i.* (1861). I saw a damaged plant or two alongside an open drain in Soughall Massie, and presume this is Mr. Smith's locality (1873); *Webb*. Roadside near Thornton Hough; By the side of Sealands road, near Chester.
5. In the Station garden at Tattenhall, 1873; *Newbould and*

Webb. Dodleston; A farm garden close to Tattenhall Station; Dickson's Nursery, Chester.

This "alien becoming a colonist," as Mr. Watson terms it, now so thoroughly at home in South England, is rare as yet with us, the above stations being all in suburban neighbourhoods or near railways.

V. arvensis, Linn.

Wall Speedwell.

Walls, field edges, hard dry wastes, &c. *A.* May to July. Native. Generally distributed. Personal records in 2, 5, 6, 7; second-hand records in 1, 2, 4, 5, 6, 7.

V. serpyllifolia, Linn.

Thyme-leaved Speedwell.

At the base of walls and on wastes by roadsides; damp pastures and meadows, and moist cultivated ground. *P.* May to August. Ascends to 1750 feet. Native. Generally distributed. Personal records in 2, 3, 4, 5, 6, 7; second-hand records in 1, 2, 4, 5, 6.

V. officinalis, Linn.

Common Speedwell.

Dry, sandy, and heathy banks, stone supporting-walls built up with earth, and in upland pastures. *P.* May to July. Native. Fairly distributed. Personal records in 2, 3, 5, 7; second-hand records in 1, 2, 4, 5.

Not what may be called a common plant, taking Cheshire as a whole; is sufficiently local always to arrest attention on an excursion, but clearly an example where detailed stations are not necessary.

V. Chamædrys, Linn.

Germander Speedwell.

Hedge-bottoms, shady dells, groves, open woods, hedge-banks, and pastures. *P.* May to July. Ascends to 1750 feet. Native. Generally distributed. Personal records in 2, 3, 5, 6, 7; second-hand records in 1, 2, 4, 5, 6, 7.

V. montana, Linn.

Sylvan Speedwell.

Damp woods and wooded cloughs and dells. *P.* May, June. Native. Fairly distributed.

1. Reddish Wood (*qy.* Cheshire?); Woods in Marple Vale; *Buxt. G.* Woods above the river after crossing into Cheshire at Reddish Viaduct; Wood descending from the canal to the river, between Furness Vale and Whaley Bridge; Poters Hey Wood, near Disley; The wooded clough alongside the "Swan with Two Necks" at Newtown New Mills; *Webb.* Wooded banks, the higher terrace of Gatley Carrs.
2. No Cheshire localities in *Wood, Flo.* or *Gr. Flo.*, but signified to be common in the Manchester district. Dingle; Appleton; *Warr. List.* Ashley woods, and woods on the Bollin Bank; *Hunt, sps.* Tabley Belt, copiously between the Red Lodge and Tabley Lane End; Becket's Wood, Aston.
3. Cattenhall; (*Robinson*), *Flo. Liv.* Wooded cloughs near Over; (*Anon.*) in *Phyt. N.S.* iii. p. 246.

4. Prenton; (*Fisher*), *Flo. Liv.* Bromborough and Eastham Woods; (*Skellon*), *Dick. Flo.* Wood by the river below Hooton Hall; *Webb and Brown.* Stanney Wood; *Brown and Neubould.* A wood between Gayton and Parkgate.
5. Dee bank, opposite Heron Bridge, above Chester; Meadow plantation, Eaton Hall grounds.

No doubt a fairly common plant throughout Cheshire, but I have judged it better to give records, as the tendency of writers is, when in doubt, *not* to detail stations, whereas they ought to do just the reverse.

V. *scutellata*, Linn.

Marsh Speedwell.

Trenches and watery hollows on peaty, heathy, or sandy ground; amongst the vegetation of pits merging into swamps, margin of meres and ponds, and on spongy moss-lands. *P.* June to August. Native. Thin but even distribution.

1. Ditch at the south-west edge of Danes Moss, near Macclesfield, sparingly; *Webb.*
2. Baguley Moor; Near Bowdon; *Wood, Flo.* By the side of a pit about a quarter of a mile below Bowdon Church; Hale Moss (the ordinary and the pubescent form); *Buxt. G. Ringway*; *Gr. Flo.* Pits near the Old Church, Knutsford; *Holland.* Hale Moss (the type), 1854; *Hunt, sp.* Knutsford, 1863, (*var. parmularia*); *Hunt, sp.* Burgh's Meadow, Tabley; Margin of Pickmere Mere.
3. Achmere; (*Robinson*), *L. N. J.* p. 197. On the margin of several pits between Elton Green and Thornton-in-the-Moors; *Brown.*
4. New Brighton; (*A. Higginson*), *Hall, Flo.* Ditch near West Kirby (*Miss Grundy*), *Flo. Liv.* Ditches in the Lower Lang Fields, which lie to the south of the footway from Hoylake Station to the Hill Houses; *Webb.* Pit by the roadside between Bebbington Church and Clatterbridge; *Dick. Flo.* Raby Mere; (*Fisher*), *Flo. Liv.* Little Sutton; (*R. Slack*), *Hall, Flo.* The same neighbourhood, 1873; *Brown.* In one of a group of pits at the junction of roads half a mile S.W. of Thornton Hough; Pit in the field where the footpath commences used in taking the "short cut" from Capenhurst to the old Chester road; *Webb.*
5. Ditch, "The Meadows," Chester; Pits, Rake Side, Saughton. [Edge Green, near Malpas; (*A. H. Wolley Dod*), *E. C. Repp.* 1892 and 1893. (Type and *var. parmularia*).]
6. Pits on the waste at Clannor Heath, on the north side of the Wybunbury Moss depression; *Webb.*
7. Lower Peover Heath, in the swampiest part, at the S.E. corner.

V. *Anagallis*, Linn.

Water Speedwell.

Sides of brooks; upon the exposed or barely covered clayey mud of pasture and roadside pits; and in wet trenches on peat-lands and near the coast. *P.* July, August. Native. Thinly but evenly distributed.

2. Baguley Moor; Hale Moss; Near Ringway, about a mile and a half from the church; *Wood, Flo.* In a ditch on the

right-hand side of road leading from New Hall Green to Ringway; and in other places near New Hall Green; *Bux. G.* Ditches in Statham Eye near Lymm; *Gr. Flo.* Hale; *Holland.* In Tabley Park below the Serpentine Bridge; In a roadside pool to water cows at, the Lennards Farm, Pickmere; The lane ditches at Moss-side, Halton Moss.

3. In a good many pits about Ince, Thornton-in-the-Moors, and Elton; *Brown.*
4. The Liverpool Floras unite in terming this a frequent plant of the district, and do not specify localities. I think this may be fairly termed a generally dispersed plant throughout Wirral (of course I mean in the right sort of ground), and it is certainly common there in comparison with any other portion of Cheshire I have visited, except the northern portions of Hundreds 3 and 5; *Webb.* In a ditch on Bidston Marsh; and near Hoylake; Finchett's Gutter, Blacon Point; Thornton Hough.
5. The glandular form, in a small pit and ditch near Bickley Wood Farm, east of Malpas; *Brown.* About Dogleston, frequent; Gowy side, Guilden Sutton; Dee Bank, Eaton Hall grounds, and elsewhere near Chester.
6. Nearing Gresty Green from Crewe; *Webb.* Roadside pit between the Canal and Ravensmoor Bridge near Nantwich; *Brown.* Hankelow Green; Buerton Green; A swampy piece of ground opposite to an inn and close to the canal, a quarter of a mile or so out of Wrenbury; The border of Winterley Pool near Crewe; *Webb.*
7. In Lower Peover Back Lane, near a private road leading towards the Fox Cover.

Is neither a rare nor yet a common plant in inland Cheshire. Near the coast, and inland when growing on hardened mud, the peduncles, pedicels, and sepals of the starved and stunted plant become sparingly clothed with short gland-tipped hairs: in this state it is the *V. anagalloides* of Gussone.

V. *Beccabunga*, Linn.

Brooklime Speedwell.

In ditches; the margins of brooks, meres, ponds and pits, and in shallow streams. *P.* June to August. Ascends to 1750 feet. Native. Generally distributed. Personal records in 2, 3, 4, 5, 6, 7; second-hand records in, 1, 2, 4, 5, 6, 7.

A variety with pale lilac flowers, in (7) a ditch near Middlewich on the Byley road; *Holland.* The pink-flowered plant which has been published under the name *V. limosa* is the common form in ditches (4) on the Dee side of Caldy; it also grows in ditches by the roadside from West Kirby to Soughall Massie; and again between the latter and Upton; (*Webb*), *Flo. Liv.* and *MS.*

V. *peregrina*, Linn.

Casual.

2. A plant or two for a couple of years on Knutsford Racecourse. Not far from it *Lepidium Draba*, *Medicago maculata*, and *Chenopodium Bonus-Henricus* have maintained themselves for many years; *J. L.* *W.* in *J. of B.* vol. ix. p. 8.

EUPHRASIA, Linn.**E. officinalis, Linn.***Common Eye-bright.*

Commons, heaths, grassy roadside wastes, and upland pastures. *A.* June to September. Ascends to 1750 feet. Native. Generally distributed. Personal records in 2, 4, 7; second-hand records in 1, 2, 4, 5, 6, 7.

BARTSIA, Linn.**B. Odontites, Huds.***Red Bartsia.*

Grassy wastes by roadsides, village greens, and poor pastures; also cultivated fields. *A.* July to September. Native. Generally distributed. Personal records in 1, 2, 4, 6, 7; second-hand records in 1, 2, 4, 5, 6, 7.

I have not yet seen the form *verna* from Cheshire; our plant is *serotina*.

B. viscosa, Linn.*Yellow Bartsia.*

In cultivated and recently disturbed sandy land near to the coast, and in grassy ground amongst the sandhills. By records, occasionally also somewhat inland. *A.* July to September. Low ground. Native. Rare and fitful in its appearances. Shore; extinct in plain?

2. On Bartington Heath; *Crosfield, Cat.* (1810), p. 30. Ditto; *Hall, Flo.* (probably taken from the above authority, and entered in his Flora in ignorance that the place lay quite out of his prescribed limit. This heath is now wholly under cultivation).
4. N.W. of Parkgate; (*Mr. Pennant*), *B. G.* Near Hyle-Lake (Hoylake); (*Okell*), *Lys. M. Brit.* Abundant in fields about Hoylake; (*Miss E. Potts*), *Hall, Flo.* In several localities among the sandhills between New Brighton and Hoylake; *Ib.* Near Thornton; *Dick. Flo.* (*qy.* which Thornton is meant?). Upton; (*Gibson*), *Flo. Liv.* This plant is by no means common on our Cheshire coast, and personally I could not have said it grew at Hoylake before 1868, although I had botanised a good deal thereabouts from 1860 onwards. It may now be found in several of the fields between the Hoylake station and the Hill Houses, but it requires the soil to be disturbed by change of culture to make it spring. As the accounts read, I should judge it to have been much more frequent forty or fifty years ago; *Webb.* Several plants where the road from West Kirby opens on Hoylake Racecourse; By the edge of the excavation-pool near Hoylake Station, 1867.

One of the rarities of our littoral Flora. The inland station reproduced without comment.

PEDICULARIS, Tournef.**P. palustris, Linn.***Marsh Louse-wort.*

The moss-lands in swampy places, boggy margins of meres, and swampy stream-valleys. *B.* June, July. Native. Unequal and local distribution. No hill record as yet.

2. Baguley Moor; On Hale Moss, plentifully; *Wood, Flo.*

Rostherne Mere; (*Wood*), *Phyt.* i. p. 282. Rather local; (repeats two last localities), *Buxt. G. Gr. Flo.* does the same: the Baguley Moor station is not named after *Wood*, *Flo.* Knutsford Upper Moor, which adjoins Tatton Mere; At the west end of Pickmere Mere in a swampy osier bed.

3. The borders of Peckforton Mere; *Chester Society.* North swamp at Hatchmere.
4. *Hall, Flo.* states the plant to be "frequent," and *Dick. Flo.* says "common," neither naming any stations. Marshy places around West Kirby and near Raby Mere; *Flo. Liv.*¹ The only Wirral locality I can call to mind is the swampy piece of ground in the stream-valley on the south side of the road from Raby Watermill towards Thornton Grange; *Webb.* "*Pinguicula* ground," Raby.
7. Brookhouse Moss, near *Orchis latifolia* var. *incarnata*.

P. sylvatica, Linn.

Pasture Louse-wort.

Moist, heathy pastures and heath-land. *B.* or *P.* † May to September. Native. Generally distributed. Personal records in 1, 2, 4, 7; second-hand records in 1, 2, 4, 6, 7.

RHINANTHUS, Linn.

R. Crista-galli, Linn.

Common Yellow Rattle.

In meadows and pastures, also grassy wastes both inland and amongst the sandhills on the coast. *A.* June, July. Native. Generally distributed. Personal records in 1, 2, 3, 4, 5, 6, 7; second-hand records in 1, 2, 4, 5, 6, 7.

R. major, Sm.

Casual; met with once only.

1. I found this during the year 1848 growing in a cornfield about a quarter of a mile from Nothern; *Buxt. G.*

MELAMPYRUM, Linn.

M. pratense, Linn.

Common Cow-wheat.

In open woods, plantations, groves, and dells, and on the wet moss-land in the low country; in wooded cloughs and open heathy woods in the upland districts; and in grassy patches amongst the heather on the higher moorlands. *A.* July to August. Native. Thin but even distribution.

1. Bour Flat; and in Walker Wood, Staley Brushes; *Walker.* High pastures, Werneth; Bredbury Wood; *Sidebotham, MS.* Woods in Reddish Vale; Woods near Marple; *Buxt. G.* In the woods at Norcliffe, (*qy.* Northcliffe?) near Styal; *Gr. Flo.* Very plentiful about Stanley Hall, Disley; the finest I ever saw, each plant forming a complete bush a foot or eighteen inches high; *Holland.* Wood between the high-road and the railway, entering Furness Vale from the Disley direction; Banks by the side of the semi-private road from Goyts Bridge to the Powder Mills; *Webb.* At the back of Kerridge Hill in a

¹ *Flo. Liv.* gives no authority for this record; doubtless some type has slipped out in the printing.

wood in the Rainow Valley; *Holland*. Ascending from Staleybridge to the Brushes, in moist places rather low on the hill.

2. Cotterill Wood, &c.; *Wood, Flo.* "Common;" *Bust. G.* Plentiful in Vale Wood, Mobberley; *Holland*. Woods beyond Ashley, 1857; *Hunt, sp.* (This plant is nearer Syme's *var. vulgaris* (common in the south) than any I have seen from our county. It is much larger in all its parts than the moss plants, but the bracts want the strong toothed and are much as in the Wybunbury plant.) Local: I have only found it on Knutsford Moor, where it is plentiful on the swampiest part.
3. On Overton Hill near Frodsham; (*Miss Johnson*), *Proc. Liv. L. and P. Soc.* xv. p. 12. Hill-side, Frodsham, 1868; *Hunt, sp.* (Labelled as a *var.* by Mr. Hunt: his plant is the usual Cheshire form.) On Helsby Hill a small form is prevalent among the heather, but the bracts are serrated; *Brown*. The wood at Horsley Hill, Beeston. Among the heath on the top of Peckforton Hill.
4. *Hall, Flo.* says "common," incidentally mentioning Gilbrook, which amongst the woodlands of Wirral once stood pre-eminent. *Dick. Flo.* says "not common," but does not quote localities, nor does *Flo. Liv.*, although it places a note of interrogation to "frequent." I have now and again noticed a few plants in the remains of Gilbrook; It also grows in woods at Prenton, Bromborough, and Eastham, in the last-named passing freely into the grass-land on the north-west side of the wood; *Webb*.
5. Bickerton Hill.
6. Wybunbury Moss; *Thompson, sp.*: also *Webb*, and *Hunt, sp.*
7. From a damp lane side in Higher Peover; *Sir H. Mainwaring, sp.* On the heath-covered crest of the ridge from Mow Cop towards Congleton; *Webb*.

[*Var. ericetorum, Oliv.*

6. Wybunbury Moss; (*Marshall*), *J. of B.* 1896, p. 136.

Var. montanum, Johnst.

6. Wybunbury Moss; *A. H. Wolley Dod.*]

M. arvense, Linn.

Error.

On a hill at Horsley Bath, near Beeston Castle; *With. Arr.* ed. ii. (1787). Ditto; *Gough, Camd. Brit.* (1789). Ditto; *B. G.* (1805). Ditto, with note of interrogation; *N. B. G.*; and "Cheshire," with sundry marks of doubt, has been quoted in different botanical works. The following is the source:—*Melampyrum purpurascens* coma; *C. B. Pin.* 234. On a hill at Horsley Bath, near Beeston Castle, Cheshire; (*Mr. Vernon*), *Blackst. Spec.* (1746), p. 51. There is no dispute that the above designation represents aught else than *M. arvense*, and the reference figure (which is copied from *Clusius*, lib. iv. p. 45) confirms this. The only mitigation to be hinted is that a plant of *M. pratense*, with bracts of a pinkish colour (say, for instance, the prototype of the Plate MIII. of *E. B.* ed. iii.) suggested the name to Mr. Vernon, and entailed on his successors some waste of time and patience.

M. arvense is a South of England plant.

M. sylvaticum, Linn.

Error.

Woods near Disley; (*Holme*), *B. G.* In many parts of the county; (*Mr. Bradbury*), *lb.* (Is it not more probable that *M. pratense* is intended?) *lb.* The above is repeated in *N. B. G.*, and Cheshire has been named in sundry subsequent locality lists.

As many localities throughout this Flora are quoted on the authority of Messrs. Holme and Bradbury, it is only fair and proper that an explanation should be made in their favour on this the first occasion it has been necessary to place their statements in the "error" category.

Note, then, that in Bentham's "Handbook" it is stated of *M. sylvaticum*, "very near" (*M. pratense*), "and not always easy to distinguish it;" that Syme, *E. B.*, says, "Extremely like small specimens of *M. pratense*;" that the old figures of the plants are in a state of bewildering confusion; that even Walcott gives a plate of *M. pratense* and calls it *M. sylvaticum*. (And as a recent coincidence, but of course a slip, as the text and English names show, in Bentham's "Illustrated Handbook" both woodcuts are headed *M. sylvaticum*.) Note, too, that out of fifteen counties Mr. Watson has tabulated from records under *M. sylvaticum*, he has reason to doubt eleven; that Hudson and Withering give "meadows" as the place of growth for *M. pratense*, and that it is likely one of these books was the Flora employed by our friends; further note, that the Disley neighbourhood produces a large bushy form of *pratense* and the ericetal form also, and I think we may conclude that the present error was not an unnatural one to be committed by ordinary provincial botanists working, say, eighty years ago, and that it does not take away from their general trustworthiness.

OROBANCHEÆ.

LATHRÆA, Linn.**L. squamaria, Linn.**

Common Toothwort.

Woods, dells, and wooded river-banks; parasitic upon the roots of trees, Hazel being the favourite. *P.* April, May. Native. Rare and partial distribution. Hills and plain.

1. In Harnicroft Wood, near Chadkirk; (*Bradbury*), *B. G.* In Marple Wood; *Buxton*. *G.* Wood between Hyde Bank and the Viaduct "up" from Romiley Station, 1874; *Saml. Hardy, fide Webb.* (This may be the *B. G.* locality mentioned above.) Gatley Carrs; (*E. Stone*), *Gr. Flo.* Didsbury, 1857; *Hunt, sp.*
2. Cotterill Clough; *Gr. Flo.* Evidently frequent in the Manchester circuit (in the Mersey and Irwell valleys), but the localities lie on the Lancashire side. *Buxton* says that it is "parasitic on the roots of Hazels, Elms, Poplars, Alders, Whitethorns, and many other trees."
7. By the Dane, below Congleton; (*Okell*), *Lys. M. Brit.*

OROBANCHE, Linn.

O. major, Linn.

Greater Broom-rape.

Parasitic on the roots of shrubby Leguminosæ: with us of recent years reported as on the Broom only. *P.* Summer. Native. Very rare; no recent and certainly existent record [except in Hundred 5].

1. Formerly on the roots of Broom, near Staleybridge in considerable plenty; (*J. Tinker*), *Buxton*. *G.*

2. Near Hill-cliff; *Holland* (1808), p. 177.
3. Ince; *Waring* (*vide infra*).¹
4. On Broom at Eastham; (*Fisher*), *Supp. Dick. Flo.* Destroyed before 1868; *vide Flo. Liv.*
5. [On *Cytisus scoparius*, between Edge and Whitney Lane; *A. H. Wolley Dod.*]
7. Near Congleton, abundantly on the roots of Broom; *Gr. Flo.*

VERBENACEÆ.

VERBENA, Linn.

V. officinalis, Linn.

Common Vervain.

Roadsides, wastes, and dry cops near to villages and farmsteads. P. July to September. Low grounds. Not native. Not common, and then a quasi-littoral plant.

3. In Dunham village, at the corner of Rake Lane, &c.; *Webb.*
4. About Hoylake; (*Shepherd, Herb.*), *Hall, Flo.* Ditto: common; (*Skellon*), *Dick. Flo.* Between Grange and Soughall Massie, near the farm buildings at Newton; (*Webb*), *App. Flo. Liv.* West Kirby; (*Mrs. F. Boulton*), *Flo. Liv.* Between Bebbington and Trafalgar; *Dick. Flo.* Raby and Neston; (*Skellon*), *Dick. Flo.* Plentiful near Sutton Hall; *Hall, Flo.* On waste ground in the village of Shotwick; *Newbould and Webb.* Copiously on the N.E. side of a little common just outside Hoylake on the north.
5. Guilden Sutton, near to Chester; (*Jas. Harris*), *Flo. Liv.*

LABIATÆ.

LYCOPUS, Linn.

L. europæus, Linn.

Common Gipsy-wort.

In wet ditches, the swampy border-ground of ponds and pits, and along the edge of canals. P. July, August. Native. Generally distributed. Personal records in 2, 4, 7; second-hand records in 1, 2, 4, 5, 6, 7.

MENTHA, Linn.

M. Piperita, Huds.

Peppermint.

Roadside ditches and swampy hollows, as also by canals, and sometimes on ground of a drier description near cottages or old gardens. P. August, September. Denizen, or possibly native. Thin but even distribution.

1. The towing-path side of the canal from under Disley to Marple (and in all probability still farther along it); in large quantity, with *Epilobium hirsutum*, &c., in a swampy piece of ground on the south side of the canal, in the first field out of Newtown New Mills towards Furness: of doubtful nativity; *Webb.*

¹ Orobanche, sive Rapum Genistæ, *Ger. &c.* Very plentifully with furze, where there is no broom over the sand-rocks at Ince, in Cheshire; *Waring in Phil. Trans. L.c.* p. 377.

2. Ditches in the road near Rostherne; *Hunt, sp.* Hale, 1868; (*Bickham, sp.*), *Hunt, Hb.* Ditch on the left side of the highway from Rostherne to Bucklow Hill; *Bux. G.* Ditch on the Knutsford and Mobberley road: not near houses; *Holland.* Hale: suspicious; *Bickham.* In a hedge-ditch of the Round Wood, where it is nearest Clay House Farm, the distance being, say, a furlong at the outside, so the wind might easily have carried seed from the garden; In the willow-bed at the back of Tabley Lane End Farm.
4. For half-a-dozen yards on the right-hand side of the Thing-wall to Arrowe high-road, a short distance from former; (*Webb*), *App. Flo. Liv.* Mollington; (*Fisher*), *Flo. Liv.* Shallow ditch at the corner opposite to Dunkirk Farm (south of Capenhurst), and in the lane between there and the Old Hall; *Brown and Newbould.*
5. Roadside ditch where the road from Waverton enters the high-road near the Guilden Sutton Toll-gate; *Webb.* Shallow ditch near Goffs Heath (east of Malpas Station): traces of a garden not far distant; *Brown.* [By the Dee below Shocklach; *A. H. Wolley Dod.*]
6. Ditch opposite Toll-gate, Crewe; *Lewis, sp.* A roadside splash not far from Penfold House, about a mile and a half from Wybunbury towards Nantwich; *Webb.*
7. Ditch in Byley, on the high-road, but suspiciously near to cottages; *Holland.* The canal-side near Astbury Bridge a mile south of Congleton, and from the hold it has, and the scattered way in which it occurs, I doubt not that it extends both north and south; *Webb.* By the turnpike road near Wincham Wharf.

Our Cheshire ditches are very favourable to the growth of Water-mints, and *M. piperita* may be conceded as naturalised thoroughly, existing in some stations with no sign of human habitation near. Still I am, on the whole, against its being regarded as native. I have no doubt that in old days, before "herbs" went out of fashion, no garden in Cheshire was without it.

Var. β. vulgaris, Sole.

4. Ditch a short distance beyond Dunkirk, near the railway towards Capenhurst; *Brown Webb and Newbould, sp.*

M. citrata, Ehrh.

Error.

Very common by the sides of rivers and brooks in Cheshire, especially about Aston House; (*Mrs. Walmesley*), *B. G.* (as *M. odorata*). Ditto; *Smith, Eng. Fl.* (as *M. citrata*). Ditto; *N. B. G.* Ditto; *With. Arr.* ed. v. and onwards. "Cheshire;" *Hook. Br. Fl.* ed. ii. and onwards. *Sole* says that it was found by Mrs. Walmesley by river-sides and brooks in Cheshire, particularly in the neighbourhood of Aston House; *Syme, E. B.* vol. vi. p. 13.

The following is the groundwork of these records: "The late Mrs. Walmesley of Bath, when I showed her this mint as a curiosity in the year 1772, informed me that it was very common by river-sides and brooks in Cheshire, particularly in the neighbourhood of her father's house (Aston House), and that it was well known there by the name of Water-Mint;" *Sole, Ment. Brit.* p. 22, sub *M. odorata*.

Mrs. Walmesley had evidently noticed that a Water-mint was common in our Cheshire ditches (or shall we suppose she anticipated Mr. Bentham in clubbing *M. citrata* with *M. hirsuta*?). It does seem a farce that this her remark to Mr. Sole (her unique contribution to botany so far as I am aware) should have caused repeated error through such a lengthened period.

***M. hirsuta*, Linn.**

Capitate Water-mint.

In wet ditches, on the swampy margins of ponds and pits, by canals and streams, and in marshy ground generally. P. August, September. Native. Generally distributed. Personal records in 1, 2, 4, 7; second-hand records in 1, 2, 4, 5, 6, 7.

***M. sativa*, Linn.**

Whorled Water-mint.

In watery ditches, by brook- and pit-sides, and amongst the border vegetation of canals. P. August, September. Native. Distribution probably general.

1. Millbrook Great Wood, near Staleybridge; *Baker, sp.* By the Peak Forest Canal at intervals from Whaley Bridge to Marple, and no doubt extends farther along its margin; Pit in the field opposite to the road-entrance to Yew Tree House, half a mile N.E. of Woodford; By the side of the Macclesfield Canal northwards from Bollington, abundant; *Webb, sp.*
2. Not given in the Manchester Floras. In ditches by the roadside between Bucklow Hill and Mere Mere; (*Hunt*), *Proc. Manch. L. and P. Soc.* vol. x. (1871), p. 49. Ditches, borders of Mere Mere, 1864; *Hunt, sp.* (The ticket is copied exactly.) Ditch beyond the toll-bar on the Chester road, Bowdon, 1864; *Hunt, sp.*
4. Of the Liverpool Floras, *Hall, Flo.* does not give it, and its two localities for *M. rubra* are brought forward under *M. sativa* in *Dick. Flo.*, where the term "not uncommon" is employed for the combination. *Flo. Liv.* states "frequent," with a rider that no satisfactory statement of the distribution of *Menthæ* can be supplied from lack of material. I cannot detail Wirral localities for *M. sativa*; indeed I have only lately given any attention to the Mints, and I do not remember to have seen what I should now term good *sativa* in the Hundred, but I think that it must occur there from what I see of its distribution elsewhere in the county; *Webb*. Ditch of lane between Raby Water-mill and Bleaky Brow. [Upon this Mr. Webb remarks, "This should be looked to—I do not feel sure."]
5. Quite a frequent plant about Malpas, Broxton, Carden, Barton, and Coddington: I noted down its places of growth until they fairly amounted to the term "frequent;" *Webb*. Waterton Quarry.
6. About Audlem and Marbury, not uncommon: my original memoranda for the plant gathered at the former station is, "*M. sativa*,—or at any rate non-capitate *hirsuta*, frequent;" *Webb*.
7. By the side of the canal south of Congleton to Mow Cop, and like the canal-side plant I record in Hundred 1, as

distinct as it is possible to have it; *Webb*. In the trench at Lower Peover Heath: this Mr. Baker refers to typical or *eu-sativa*.

Var. subglabra, Baker.

7. Trenches of Lower Peover Heath. (This is a form which I name as above: one hesitates whether to call it *sativa* or *rubra*; *J. G. Baker*.)

Var. paludosa, Sole.

2. Ditch-side near Mobberley, 1869; *Hunt, sp.*
7. Trenches on Lower Peover Heath.

M. rubra, Sm.

Red Water-mint.

The sides of watercourses and in watery places. *P.* September. Native? Distribution imperfectly known.

1. At intervals by the side of the Peak Forest Canal from below Disley to Marple, sparing in quantity as compared with *M. hirsuta*, *sativa*, and *piperita*, which accompany it; *Webb, sp.*
2. "A curious form gathered by Dr. Windsor at Partington, in Cheshire, has long tufted white fleecy hairs upon the teeth and upper part of the tube of the calyx, and the stem and veins of the under side of the leaves are similarly clothed;" *Baker, sub. M. rubra in J. of B. vol. iii. (1865), p. 249.*
4. Plentiful in Eastham Wood, and in a cornfield at Oxtun (with *M. arvensis*); *Hall, Flo.* (See remarks under *M. sativa*.) I can say nothing about *M. rubra* further than that I have been told more than once the Eastham Wood plant was rightly so named, but that the locality has been destroyed for some time; *Webb, MSS.*

M. gentilis, Linn.

Allied Mint.

Roadsides, in ditches, &c. *P.* June to September. Alien or casual. Two or three records. Plain.

2. In some quantity in the grassy roadsides at Four Lane End, Tabley, September 1869, but there is a farm garden handy, from which it may have strayed; passed by Mr. Baker.
5. [Gallantry Bank; (*A. H. Wolley Dod*), *E. C. Rep.*, 1894.]

M. gentilis, Linn.

Ambiguity.

Right bank of the Mersey near Carrington Ferry, plentifully; *Buxl. G.* Distinguished from its allies by the peduncle and base of the calyx being glabrous or nearly so. *Ib.* (See *E. B. tab. 2118.*) In Mr. Baker's paper on British Mints, *J. of B. vol. iii.*, *M. gentilis* is separated into three portions, and to No. 3 of these, viz. *M. Pauliana*, *F. Schultz*, he refers the above-named *E. B. figure*. In *Syme, E. B. vol. vii. p. 17*, we find, "Mr. Baker refers to *M. rubra* a plant collected by Dr. Windsor at Partington, Cheshire. . . . It appears to me to be *M. gentilis, var. γ.*" If Baker, Syme, and Buxton are correct, Dr. Windsor must have gathered two different plants at Partington, one the same as Buxton found in the above locality on the other side of the river, and another a variety referable to *M. rubra* (which see).

M. arvensis, Linn.

Cornfield Mint.

In cereal and root-crop fields and plots, as also by streams, canals, and roadside ditches. *P.* August, September. Ascends to 900 feet. Native. Generally distributed. Personal records in 2, 7; second-hand records in 1, 2, 4, 5.

Var. a. præcox, Sole, *Ment. Brit.* t. 13.

4. Near the *Carduus tenuiflorus* in a ditch at Hoylake, August 1865. (I name this as above; it is a robust non-agrestal var. of *arvensis*; *Baker*.)

M. Pulegium, Linn.

Pennyroyal Mint.

The moist turfy banks of water hollows on sandy commons. *P.* August, September. Native. Confined as native to a small area in South Cheshire. Plain. South borders.

1. Godley Hill, between Mottram and Gee Cross; (*Bradbury*), *B. G.* Near the railway station at Godley; (*Wood*), *Phyt.* vol. i. (1842), p. 281, but not given in the Flora he edited two years previously, nor quoted in *Buxt. G.* or *Gr. Flo.*
4. New Brighton; (*T. Sansom*), *Dick. Flo.*: considered to be a garden outcast, which is highly probable.
6. Wet hollows at Beam Heath, Nantwich; (*J. E. Bowman, sp.*), *N. B. G.* This would be about 1834; *Watson*. Part of this heath is now under cultivation, part has been built upon, and the bulk of the remainder was flayed for brick-making, and being subsequently levelled, is now (1874) enclosed for a park; *Webb, MSS.* Hankelow Green, extending for thirty yards along the north side, and scattered here and there over the green, 1874; *Id. sp.* At Audlem a Mr. Green showed me this plant, the produce of some his father had taken into the garden from Ravensmoor, near Nantwich, where it used, he says, to grow in plenty, but is now quite obliterated; *Id.*

Garner in *Nat. Hist. Staff.* says, "Plentiful on commons on the Cheshire borders of Staffordshire."

THYMUS, Linn.**T. Serpyllum**, Linn.

Wild Thyme.

On the sandhills, and on sandy banks, wastes, hedge-cops, and heathy rocky ground near the sea. Inland almost confined to the slopes of upland moor pastures, and there very rare. *P.* June to August. Native. General as a littoral plant. Very rare inland.

1. Hills above Disley, Lyme Park, &c.; *Sidebotham*. Kerridge Hill, Bollington, on the slope near White Nancy, at intervals with *Carlina*; *Grindon*. (These localities have been found since the publication of the Manchester Floras, in the two first of which the plant is not named, and in *Gr. Flo.* it is only incidentally mentioned in a note on page 251 as growing beyond Disley and Congleton in Derbyshire.) Occurs only in two localities about Manchester, "both remote, and of very small extent;" *Grindon*

P

in *J. of B. N.S.* vol. i. (1872), p. 305. I saw no *Thymus*, and Hobkirk says it is absent from the Huddersfield Flora also; *Baker, M.S.* (referring to the northern part of this Hundred).

2. A very remarkable station for this exists in Mobberley: it covers a dry hedge-bank in Smith Lane for thirty or forty yards: it is luxuriant, and, if anything, there is rather more of it than there was twenty years ago: I believe this to be the only station in Inland Cheshire; *Holland*.
3. The road from Crabtree Green towards Norley as it rises beyond Stonyford Brook.
4. Covers the Cheshire sandhills from New Brighton to Hoylake; Seen also at Parkgate; and I have noticed it some way inland, say two miles, between Willaston and Neston, so I suppose that it grows throughout Wirral.

The Liverpool Floras all give it as very common near the coast.

The extreme rarity of *Thymus* is a main floral characteristic of Inland Cheshire, it being a plant of extremely diverse and wide range, say in Britain from the south coast of England to Mr. Watson's superarctic zone in the Highlands.

[**T. Chamædrys**, *Fr.*

P. Summer. Native. One record.

2. Lane-bank between Mobberley and Knutsford, on the east side of the railway; (*Bailey*), *R. C. Rep.* 1883.]

ORIGANUM, *Linn.*

O. vulgare, *Linn.*

Wild Marjoram.

In bushy places on roadside banks and wastes, not unlikely originating from gardens, or may have got hither from the Welsh coast. *P.* August. Alien? A garden outcast?. In one or two littoral stations. Shore.

4. Between Seacombe and Poulton; (*A. Stewart, sp.*), *Hall, Flo.* Ditto; (*H. Shepherd*), *Ib.* Ditto, in hedge-banks near the wooden bridge; *Dick, Flo.* Hedge-bank by the roadside between the village of Eastham and Hooton Park; (*Shillito*), *Flo. Liv.* In some quantity by the sides of the little-used road between Great Soughall and Shotwick, 100 yards before reaching the farm-house called "Lodge" in the Ordnance map; *Webb*.
5. River-side of the Dee Cop, about a mile below Chester, abundant; *App. Flo. Liv.* (with the sign of possible introduction).

CALAMINTHA, *Mærch.*

C. Clinopodium, *Spenn.*

Hedge Calamint.

On dry hedge-banks growing up into the hedges, and amongst the "scrub" vegetation of lane-side, roadside, and field-side wastes. *P.* July to September. Native. Thin, even distribution.

1. On a hedge-bank about half-way between Jackson's Boat and Northen; Near Cheadle; *Wood, Flo.* Right bank of the

- Mersey, about 200 yards above Cheadle Bridge, rather sparingly; (this appears to be Cheshire ground); Hedge-bank in a field on the left bank of the same river opposite the preceding situation; Sloping bank of a brook near Cheadle Church; *Buxt. G.* Near Chelford; *Holland.*
2. Between Jackson's Boat and Baguley Moor, but very sparingly; *Wood, Flo.* Local and not very uncommon. The best and most copious station is in a field-hedge between the Waterless Brook and the Lennards Farm; Again in the lane to Marston; Between the Red Lodge and Tabley Wall-end by the Knutsford roadside, sparingly, &c.
 4. Near Knowles' House, Claughton; *Hall, Flo.* (long since destroyed). Woodchurch road; (*Fisher*), *App. Flo. Liv.* Near Bromborough Pool; (*Skellon*), *Dick. Flo.* Sparingly on the right-hand hedge-bank by the roadside from Poulton Hall to Raby Mere; *Webb.* Amongst gorse and brambles in the lane leading from near Bromborough Station to Raby Mere; (*Webb*), *App. Flo. Liv.* Hedge-banks near Hooton on the road to Parkgate; (*Webb*), *Flo. Liv.* From Mollington Station to the neighbourhood of Backford; *Brown.* By the roadside in several places approaching Little Stanney from Stoke, and now and again in Goldworth Lane; *Brown and Newbould.* Past the Lodge Farm in the unused road from Great Soughall towards Shotwick; Steep hedge-bank on left-hand side just out of Shotwick village, and occurring at intervals for a mile towards and past "Plum-houses;" *Webb.* A plant by the roadside between Moston Bridge and Little Sutton.
 5. By Keys Brook, N.W. of Tattenhall; Aldford; Wooded bank of Dee, opposite Heron Bridge, near Chester. [Rather common, Kidnal Hill; Horton; *A. H. Wolley Dod.*]
 6. Hedge-banks near the canal between Nantwich and Ravensmoor; *Brown.* Hedge-bank nearly opposite to "The Wood" between Wirswall and Marbury; *Webb.*
 7. About Congleton; *Gr. Flo.* A good station following the lane due south from Trout Hall, about a quarter of a mile on the banks of the little pit where the *Lemna polyrhiza* occurs: only just in the Northwich Hundred. Thinly but generally distributed.

C. *Acinos, Clairv.*

Field Calamint.

Dry fields and wastes on a sandy soil. *A.* July, August. Casual? Few records.

2. In a field above Bowdon Moss, plentiful, as well as in other places in the same neighbourhood; *Wood, Flo.* Cultivated fields and roadsides at Bowdon, frequent; *Buxt. G.* Ditto; *Gr. Flo.* Field at top of Bowdon Downs, July 1857; *Hunt, sp.*
4. The Cop, Chester, about half-way along it.

Too horticultural and suburban a neighbourhood to establish as native any species which seems to be absent from the rest of our area.

C. menthaefolia, Host.

Common Calamint.

Dry sunny banks and hedge-cops. *P.* July to September. Low grounds. Native. In one station in the south. Extinct in the other recorded places?. Plain.

4. In a lane leading from Claughton Hall to Bidston, very near Knowles' House; (*Shepherd, Herb.*), *Hall, Flo.* (long since destroyed). Bidston Churchyard, scarce; (*Skellon*), *Dick. Flo.* I picked it in Bidston Churchyard about 1856 or '57 as a strange plant to me, and some years after ascertained its name; in the meantime the renovation of the church and surroundings had quite destroyed the station; *Webb, MSS.* Near Bromborough, scarce; (*W. Bean*), *Dick. Flo.* (Qy. a mistake for *C. Clinopodium?*) Near Thornton, scarce; (*Skellon*), *Ib.* (Qy. which Thornton is meant?)
5. Dry bank by the entrance gates to Saighton Hall; The wooded old river-bank under Meadow House, south of Chester.
6. Hedge-bank on the right-hand side a short distance out of Wrenbury towards the canal, in fair quantity; Again hedge-bank between Frith Hall and Ganton's Bank, two miles west of Wrenbury; *Webb.*

In the *N. B. G. Cheshire List*, the county name is quoted on authority of *G. Gordon, MSS.*, and "*Roadside, Cheshire*," is furnished in *Warr. List.*; but the late Mr. Wilson does not indicate this as a Cheshire plant in his marked copy of *Wats. Outlines* (now in possession of Mr. B. D. Jackson), nor does he include it in his circuits of Warrington plants as detailed in a copy of *Galpine's Compend* in the Botanical Dept. British Museum.

NEPETA, Linn.

N. Cataria, Linn.

Catmint Nepeta.

In waste places. *P.* August. Native?. In two old and doubtful stations and a few more modern ones. Shore.

3. Sutton Bridge, Frodsham 1850; (*John Harrison*), *Dick. Flo.*
4. Near Oxton; (*Mr. Maughan*), *Dick. Flo.* Close to the shore at West Kirby, amongst brambles and shingle, very sparingly; (*Mrs. S. Boulton*), *Flo. Liv.* Near Mollington; (*Fisher*), *Ib.* The Cop, Chester.
5. (Or Flintshire.) I think this was seen pretty close to the town of Chester, on or near the canal (New Channel of the Dee) side. But now the only certainty is that the name is in a list of plants observed between Chester and the Lower (Queen's) Ferry across the Dee in 1850; *Watson.* Dee Cop, Chester.

N. Glechoma, Benth.*Ground-ivy Nepeta.*

Hedge-bottoms and banks, woods and other shady places. *P.* April, May. Native. Generally distributed. Personal records in 2, 3, 4, 6, 7; second-hand records in 1, 2, 4, 5, 6, 7.

SALVIA, Linn.**S. Verbenaca, Linn.***Wild Sage.*

On dry banks. *P.* June, July. Native. Only about one town. Extinct in the other station? Shore.

4. About West Kirby, on banks, rare; (*Skellon*), *Dick. Flo.* Sparingly by the lane-sides at the Hill Houses, West Kirby; (*Mrs. S. Boulton, &c.*), *Flo. Liv.* I used to see it at the Hill Houses, a little distance down "Rutter's Lane," but the hedge and bank have been replaced by a stone wall, and, as far as I know, the plant is destroyed thereabouts, at any rate I could not see any trace of it in 1872 and 1873: I considered it to be native; *Webb, MSS.*
5. The Roodee, Chester, near to the walls; (*Jas. Harris*), *Flo. Liv.* (Mr. Cayley's old recorded locality "about Chester;" *Topog. Bot.* Part ii. p. 646.) On the dry banks under Chester town walls, near the Grand Stand on the Rood Eye.

PRUNELLA, Linn.**P. vulgaris, Linn.***Common Self-heal.*

Hedgebanks, pastures, wastes, open woods, meadows, and cultivated ground. *P.* July, August. Ascends to 1750 feet. Native. Generally distributed. Personal records in 1, 2, 3, 4, 7; second-hand records in 1, 2, 4, 5, 6, 7.

Perhaps the commonest Cheshire turf "wild flower" after the daisy.

SCUTELLARIA, Linn.**S. galericulata, Linn.***Common Skull-cap.*

Amongst the border vegetation of meres, ponds, pits, and brooks and canals; in low swampy ground, and in deep-cut trenches and ditches. *P.* July to September. Native. Thin but equal distribution.

1. Great Wood, Staley; *Walker.* Swampy piece of ground on north side of the railway "down" from Disley Station something short of half a mile; and on the margin of a small mere on the other side of the railway, in the field below the Dog Kennels; Pit by the roadside near Doghill Green, $1\frac{1}{2}$ miles south of Hazel Grove; and again in a pit north of the railway at the Stones Green Bridge; By the Macclesfield Canal northwards from Bollington to Lyme Colliery; In the ditch and by the streamlet alongside the road from the mill in Lyme Park to the S.W. Park Gate; *Webb.*
2. In great plenty at Spring Wood, Knutsford; Also in the broad ditch along the yew-hedge at Mobberley Hall; *Holland.* Not unfrequent in the Manchester district:

Sale; Timperley; Altrincham; *Buxt. G.* Wood by the stream between the Birkin and Rostherne Mere; *Hunt, sp.* It grows in many pits in Tabley Park, *e.g.* in two due south of the house; Very frequent in the Island Wood, Tabley Park; Mere Mere.

3. Thornton and Ince; *Waring*.¹ Frodsham Marshes, frequent; (*Robinson*), *Flo. Liv.* Achmere; (*Ib.*), *L. N. J.* p. 197.
4. Upper part of Bromborough Pool; (*T. Sansom*), *Dick. Flo.* Bidston Marsh; (*Fisher*), *Flo. Liv.* In "The Fender" between Noctorum and Woodchurch; (*Webb*), *Ib.* Damp ground in the wood adjoining the old bathing-house near Hooton Hall; (*Brown and Webb*), *Sec. App. Flo. Liv.*
5. Ditches, "The Meadows," Chester.
6. The north margin of Little Mere near Marbury; *Webb*. Pit in a field behind the Methodist Chapel near to Old Hall, and distant about two miles northwards from Audlem; *Id.*
7. The canal-side by Astbury bridge, a mile south of Congleton, probably extending to the Hundred limit in both directions: I have already mentioned it in the northward direction at Bollington (Hundred 1); *Webb*.

S. minor, Linn.

Lesser Skull-cap.

Shallow ditches and boggy hollows on heath-lands. *P.* July, August. Native. Rare and decreasing, but here and there (probably) throughout the county.

1. Boggy places on Staley Moor; (*Bradbury*), *B. G.* Lindow Common, near Wimslow; *Buxt. G.* Not now at Lindow; (*Bickham*), *Proc. Manch. L. and P. Soc.* viii. (1869).
2. Seaman's Moss on the part next to Altrincham; (*G. Caley*), *With. Arr.* ed. iii. and onwards. Bowdon Common; *J. Merrick* (*Bot. Soc. London*, 1842), *vide Watson*. On Bowdon Moss (qy. same as above?). Hale Moss; *Wood, Flo.* Lost at Bowdon; *Sidebotham, MSS.*; and "Hale" not repeated by *Wood* in *Phyt.* (1842), nor mentioned in *Buxt. G.*: given as a lost locality by *Bickham* (*l.c.*).
3. Bogs on Delamere Forest; (*Okell*), *Lys. M. Brit.* The following are recent confirmations of the above: Oakmere; *Holland, sp.* Achmere; (*Robinson*), *L. N. J.* p. 197. Edge of a small piece of water called "The Fish Pool," a little to the south of Oakmere; *Bickham* (*l.c.*).
4. Heswell Heath; (*Marrat*), *Flo. Liv.* Ditch on Thurstaston Heath in the direction of Irby Windmill; (*Webb and Fisher*), *Proc. Liv. L. and P. Soc.* vol. xv. (1861), p. 12. Marshy piece of ground at commencement of Bidston Heath; *Webb*. Side of a shallow ditch by the west edge of Oxton Heath;

¹ *Cassida palustris vulgatio* fl. cæruleo; *Tourn.* *Lysimachia galericulata*; *L'Ob.* In this part I have observed it only by the sides of a ditch and rill dividing the parts and the home-house pastures at Ince, Cheshire, and about thirty paces from Thornton Brook. There plentifully. *Waring in Phil. Trans.* lxi. p. 364.

(*Webb*), *Flo. Liv.* I know that this plant is destroyed in my Bidston Heath locality, as the patch of ground is now included in the Cemetery; and at Oxtan the ditch has for some years been a dry one through drainage, so that the plant has disappeared; at Thurstaston I have not come across it since first finding, but I forget the exact locality, having had but little knowledge of the district in 1860. Some parts of the Heswell range are very likely places for it, and it will have a better chance of continuing undisturbed there; *Webb*, *MSS.*

Cheshire (*J. E. Bowman*, *MSS.*), *N. B. G.* Our records show that this species has been "cultivated" into a small area; in olden time it was probably a common Cheshire plant, and even now may be often overlooked.

MARRUBIUM, *Linn.*

M. vulgare, *Linn.*

White Horehound.

Sandy wastes about dwellings near to the sea, extending a little distance inland by the sides of the roads. *P.* August, September. Low grounds. Alien, casual. Here and there in the coast district and inland.

2. Waste places and waysides about Mobberley; Lane leading from Mobberley Church to Tippings Brow; *Gr. Flo.* (Probably a plant or two thrown out with garden rubbish.)
3. Opposite a cottage N.W. of the Fish Pool, Delamere.
4. Sandhills at New Brighton, in several places; (*Miss Grundy*), *Flo. Liv.* Rocky places about Wallasey Church; (*W. Harrison*), *Ib.* Roadside at the brow between West Kirby and Caldy, with *Leonurus*; (*Webb*), *App. Flo. Liv.* Several times between Hooton Station and Parkgate, by an upper road, and here Mr. Newbould remarked that he saw nothing to justify distrust; *Webb.* Little Sutton and Tranmere; *Dick. Flo.* Just where the shingle begins, say half a mile north of Hoylake, near the end of a green lane, but with evident rubbish-heaps about, and a hovel near; Also by the road about two hundred yards from the Royal Hotel, Hoylake, towards the Station, near to the Racecourse rails, 1867.
5. Waste by the Boughton road on the outskirts of Chester.
7. I have noticed this not unfrequently on the borders of fields round Middlewich: there is much market-garden ground about, and the plant may have come thus; *Bickham.*

BALLOTA, *Linn.*

B. nigra, *Linn.*

Black Horehound.

Hedges, hedge-banks, and roadside wastes (particularly near villages and farmsteads) in the sandy and sandstone districts. *P.* July, August. Native. Unequal distribution. General only coastwards. Chiefly West Cheshire.

1. Not seen at all in this Hundred, though I was on the look-out for it, nor is most of the ground at all likely; *Webb.*

2. Waste places near Bowdon; Lane below Bowdon Church, and fields in its vicinity; *Bux. G., Wood, Flo., and Hunt, sp.* On the hedge-banks around Mobberley Church; *Holland.* Very local in my home circuit: I only know it (and there perhaps introduced) in a hedge just outside Mr. P. Jackson's farm between Tabley and Toft.
3. Very abundant as we approach the sea: I saw it in every hedge about Frodsham and Helsby; I also noticed it on the Forest by the roadside near the Abbey Arms; Common about Tarporley and Tarvin; Dunham-on-the-Hill; Little Budworth.
4. Common about Parkgate, Hoylake, and Wallasey; Also at Moston Bridge, and no doubt all over Wirral. The Floras all give it as a common plant.
5. A very common weed in the neighbourhood of Chester: Found for miles along the Queen's Ferry road, on hedge-banks and waste ground; *Holland.* The roadside between Bickley School and Bickley Hall; Carden Green; Barton; Coddington, &c.; *Webb.* Aldford; Plemstall.
6. About Audlem, and on hedge-banks about the neighbouring villages generally. Common around Wrenbury; and Wirs-wall; *Webb.*

This common plant is very unequally distributed in Cheshire; As I work westwards from my central point, I cannot help comparing it with the distribution of *Rubus discolor*, which begins to thicken at the same places, and has a strong littoral tendency.

STACHYS, Linn.

S. Betonica, Benth.

Betony Woundwort.

On rough bushy banks, woods, overgrown hedge-cops, and the borders of fields, particularly where the soil is stiff clay. *P.* July to September. Ascends to 900 feet. Native. Generally distributed. Personal records in 2, 4, 7; second-hand records in 1, 2, 4, 5, 6.

S. palustris, Linn.

Marsh Woundwort.

By the sides of ponds and ditches; in swampy ground, and in moist cultivated fields. *P.* August. Ascends to 900 feet. Native. Generally distributed. Personal records in 2, 7; second-hand records in 1, 2, 4, 5, 6.

S. ambigua, Sm.

Intermediate Woundwort.

In situations similar to those of the last-named. *P.* July, August. Native. Distribution imperfectly known.

1. Strines Valley below New Mills, Marple, &c.; *Sidebotham.*
2. Garden Wood, Tabley, on the west side, 1868 and 1870; Ten-acre by the Lake, 1870: *sylvatica* predominates in the former, *palustris* in the last.
3. On a waste by the roadside about half a mile S.W. of Thornton Hough: the form *palustris* predominates; (*Webb*), *Sec. App. Flo. Liv.*
5. In the dell under the suspension bridge, Curzon Park, Chester.

S. sylvatica, Linn.*Hedge Woundwort.*

Shady hedge-and-ditch banks; in plantations, wooded cloughs, and the border portion of large woods. *P.* July to September. Native. Generally distributed. Personal records in 2, 3, 6, 7; second-hand records in 1, 2, 4, 5, 6, 7.

S. arvensis, Linn.*Cornfield Woundwort.*

In cornfields and other cultivated land on a light soil. *P.* July to September. Native. Thinly but equally distributed. Personal records in 2, 3, 4, 6, 7; second-hand records in 1, 2, 4, 5.

GALEOPSIS, Linn.**G. Ladanum, Linn.***Red Hemp-nettle.*

In cultivated and waste free-drained ground. *A.* August. Native or colonist. In one native station.

4. Among the new macadam of the road at Neston Railway Station in 1871; (*Fisher and A. Horton*), *Sec. App. Flo. Liv.* About fifty plants in the loose macadam apparently recently laid down, thirty yards or so from the wicket of Neston Station towards Neston, 1873: probably introduced.
7. Seven or eight plants in a cornfield ascending the Mow Cop range by the road leading due south from Congleton, in 1867.

Dry banks, Cheshire; (*H. Shepherd*), *Hall, Flo.* I cannot ascertain to which Hundred this applies. Though casual in 4, I have no reason to doubt its nativity in 7.

G. versicolor, Curtis.*Large-flowered Hemp-nettle.*

In peaty potato-fields and among root crops in general, in stubbles occasionally. *A.* July to September. Native. Thin but equal distribution.

1. Cornfields about Stockport; (*W. Christy*), *Buxt. Br. Bot. i.* (1834), 75. A few plants in a turnip-field about a mile from Staleybridge on the road to the reservoir; *Baker and Webb*. Wimslow and Alderley; *Gr. Flo.*
2. Cultivated fields and waste ground on the south and south-west sides of Manchester, frequent; *Buxt. Flo.* Mobberley, fine and plentiful; (*Holland*), *Gr. Flo.* Bowdon; *Hunt, sp.* Very prevalent in every potato-field, sometimes quite smothering the crop, *e.g.* the Tabley Hill, Bexton, and Flitto Gate district,—but everywhere; I have also seen it as far north as the peaty fields on the borders of Carrington Moss.
3. At Frodsham, occasionally; (*Robinson*), *Flo. Liv.* At Kingsley; (*Id.*), *L. N. J.* p. 196. Cornfields at Over; (*Anon.*), *Phyt. N.S. iii.* p. 250. Noted in this district but locality forgotten.
4. In cornfields between Woodside and Parkgate; Common in cornfields about Sutton Hall; *Hall, Flo.* (No additions have been made to these two records in the more recent

Floras: the "Ford" entered in *Flo. Liv.* is in Lancashire.) I have never seen this plant in Wirral: must it be attributed to the dying out of slovenly farmers? *Webb. MSS.*

5. Cornfields about Chester; (*W. Christy*), *Buxt. Br. Bot.* [Between Edge Green and Tilston; *A. H. Wolley Dod.*]
6. A single plant by the roadside near Basford Station; *Webb.*
7. Northwich; (*Rev. H. Davies*), *B. G.* Cornfields about Congleton; (*W. Christy*), *Buxt. Br. Bot.* Ditto; *Watson MSS.* Quite as prevalent in Lower Peover, &c., as in 2; the most southern station I have seen it being a field near the "Three Greyhounds" at Rudheath, but it no doubt spreads much farther.

The *Bee-nettle*, as it is locally called, is perhaps the most characteristic plant of Central Cheshire. It evidently thins out towards the south and towards the sea, but there cannot be a better ground for studying this species anywhere in England. The potato-fields, which it affects most, are often covered for roods with it. Curiously enough it is a commoner plant in my home district than *G. Tetrahit*; but there is plenty of the latter also, and they often grow together: still, I never saw the slightest approach to intermediates between the two; and, alive, they are abundantly, and I should say "specifically," distinct. It is only in the herbarium that likeness begins.

G. Tetrahit, Linn.

Common Hemp-nettle.

In cultivated ground, ranging from sandy to peat; on rubbish-heaps, wastes, and walls, and in open woods. *A.* July to September. Ascends to 900 feet. Native. Generally distributed. Personal records in 1, 2, 4, 6, 7; second-hand records in 1, 2, 4, 6, 7.

Leonurus Cardiaca, Linn.

Garden outcast.

In 1872 I saw three strong growing plants close to a macadam heap by the highroad between West Kirby and Caldy: *Marrubium* in company. There does not happen to be any cottage or garden near; but a quarry on the opposite side of the road was evidently used as a garden-refuse depôt; *Webb.*

LAMIUM, Linn.

L. amplexicaule, Linn.

Henbit Dead-nettle.

In good light soil of cultivated ground, and occasionally by the neighbouring roadsides. *A.* July, August. Native or colonist. Rare inland, and in one limited coast area. Plain and shore.

2. Cultivated fields at Bowdon, but not very common; *Wood, Flo.* and *Buxt. G.* Timperley; *Buxt. G.* ed. ii. Ashton-upon-Mersey; *Gr. Flo.*
4. The three Liverpool Floras class it as "frequent," and do not give localities. My personal opinion is that this plant is wrongly so classed, for I do not suppose you could get even half-a-dozen localities, which at all approach to permanency, named for it in the whole circuit. I can only give one for Wirral, namely, a potato-garden at the back of the public-house on Grange Hill, or perhaps it would

be better defined by saying, a plot of cultivated ground on the right-hand side of the foot-lane starting from the main-road alongside the said public-house and passing into Lang Lane: here I have never missed seeing the plant in good condition for a series of years; *Webb, MSS.*

5. Garden-edge, the Boughton road, outskirts of Chester; By the farm corner close to Tattenhall Station.

L. incisum, Willd.

Cut-leaved Dead-nettle.

In cultivated ground, and on roadside hedge-banks and wastes; also amongst the macadam of new-made roads. *A.* June to September. Native. Probably has a fairly general distribution.

1. Hedge between Gatley and Cheadle.
2. Bowdon; *Hunt, sp.* Cultivated fields and waste places at Altrincham and Bowdon; *Bux. G.* This form is quite common on cultivated ground in Mobberley, and frequent on hedge-banks; *Holland.* Tabley kitchen-garden; Tabley Hill cottages and roadside; Tabley black pit: fairly common; Ashley.
3. In two patches by the road on the Common-side between Helsby Hill and Alvanley Cliff; *Brown.* Between Frodsham Station and Overton Church; Beeston Gate; Lower Bunbury.
4. The three Floras infer "frequent." I should name this as frequent in Wirral: what we now term *purpureum* var. *decipiens* has been confounded with it: it would be interesting, I think, to experiment on this latter by cultivation; *Webb.* Roadsides at Willaston; *Lewis, sp.* Raby Water-mill.
5. By the roadside between Bickley Town Farm and the bridge over the stream on the way to Bickley Hall; By the roadside half-way between Stretton and Barton: in quantity and a considerable range of forms; *Webb.* Waverton; Aldford.
7. The garden at Alcock's new farm, Lower Peover.

L. purpureum, Linn.

Red Dead-nettle.

Borders of cultivated fields, hedge-banks, and roadside wastes; about manure and refuse heaps and in garden ground. *A.* May to October. Ascends to 1000 feet. Native. Generally distributed. Personal records in 2, 3, 5, 7; second-hand records in 1, 2, 4, 5, 6, 7.

L. maculatum, Linn.

From gardens.

Sometimes spreads from gardens, sometimes marks "where once a garden smiled," and sometimes the produce of rubbish cast out of garden ground.

2. Hedge-bank in a lane near Broadheath: doubtless an outcast, but likely to be naturalised, 1859; *Hunt, sp.*, and var. *levigatum* growing with it. Has trespassed into the turnpike-road from the garden of Flitto Gate Farm, where it has been for the last ten years, and seems to be spreading. Mentioned for this reason, and because on the road between Preston and Longridge, Lancashire, it is so thoroughly established that it might deceive the most careful botanist—aye, even Mr. Watson himself.

4. Found apparently wild in Gilbrook; *Hall, Flo.* I have seen the maculate and the emaculate plant in several places, but it was easily traceable to gardens. Our non-spotted form is not, I think, the real *L. rugosum* of Aiton, as is sometimes stated; *Webb.*
7. Hedge-bank on the Buxton road out of Congleton, between the Toll-gate and Finger-Post House; *Webb.*

L. album, Linn.*White Dead-nettle.*

Under hedges, on ditch-banks, shaded grassy wastes, borders of fields, and often about the outskirts of villages in company with *Ballota nigra*. *P.* June to September. Native or denizen. Distribution local, unequal, interrupted. Chiefly plain, and notably in the southern half.

1. Hatherlow; (*E. Coward*), *Sidebotham, MSS.* Bramhall; (*J. Williamson*), *Gr. Flo.*
2. Ashley; Lymm; Mobberley, in every place sparingly; *Gr. Flo.* (The Mobberley station in *Gr. Flo.* is from me; *Holland.*) Bollington; *Hunt, sp.* By river-bank, &c., Wilderspoo, near Latchford.
3. Frodsham neighbourhood, frequent; (*Robinson*), *Flo. Liv.*¹ Castle Hill, Northwich.
4. Common about Eastham; (*H. Shepherd*), *Hall, Flo.* Bromborough; (*Miss Grundy*), *Flo. Liv.* I cannot remember ever seeing this plant in Wirral; *Webb.*
5. Near Golbourne Bridge, Tattenhall; *Lewis.* Frequent about Farndon, Crewe Hock, and Stretton; In a walk from Malpas railway station, by Hampton Post, Goff's Heath, No Man's Heath, Bickley Wood, Bickley Mill, Bar Mere, Swanna Green, Steer Bridge, Marbury, The Knowls, Wirswall, and The Mount, to the Shropshire border, this plant was abundant in many places; *Brown.* Roadside between Bickley School and Bickley Hall; The suburbs of Malpas; Carden Green; *Webb.* Broxton Station.
6. By the roadside entering Haslington by Crewe Green; About the cottages in Wrenbury Frith; Swanna Green, between Marbury and Bickley; *Webb.* Some of the places mentioned above by Mr. Brown are in this Hundred.
7. By the roadside nearing Sandbach from Crewe, in good quantity; *Webb.* By the roadside at the Old Crown Farmhouse, Lower Peover, 1867.

In the southern halves of 5 and 6 this becomes as common a plant as it is in Shropshire and Staffordshire, upon which these Hundreds march; in the greater portion of Cheshire it is curiously local.

L. Galeobdolon, Crantz.*Yellow Dead-nettle.*

In dampish woods and wooded cloughs. *P.* May to July. Native. Rare.

1. In Reddish Vale; *Sidebotham, MSS.* and *Buxt. G.* Woods in

¹ "I only know of one locality, and there it is very sparing:" "quite a rarity with us." *Robinson, MSS.* July 4, 1873.

- Marple; *Buxt. G.* In the woods at Styal; *Gr. Flo.* The shady lanes and wooded banks of Gatley Carrs.
2. In Cotterill Wood, plentifully; *Wood, Flo.* Ashley Woods; *Hunt, sp.* Ashley; *Gr. Flo.* The Denna, Hill Cliff; *Warr. List.* Aston Wood, Aston; (*J. Harrison*), *Dick. Flo.* Rock Savage Woods, plentiful; (*Robinson*), *Flo. Liv.* Quite common in all the woods and cloughs near the Bollin, where it passes through Mobberley, Morley, and Hale; *Holland.* I only got a single plant in June 1864, from the dampest part of Holford Mill Bottoms, about a furlong above the Hall on the Holford Moss side.
 5. Plantation or wooded bank below Meadow House, two miles south of Chester: (I feel sure it was the plant, although I only saw the shoots); Walker's Wood, Broxton; *fide Mr. Cross.* [Edge Wood, pretty frequent; *A. H. Wolley Dod.*]
 7. I think I used to see this about Congleton; *Watson, MS. notes.* Buglawton, near Congleton; *Sidebotham.*

AJUGA, Linn.**A. reptans, Linn.***Common Bugle.*

In glades, moist open woods, and wooded cloughs; on the banks of streams and ditches, and in dampish pastures. *P.* May, June. Native. Generally distributed. Personal records in 2, 3, 7; second-hand records in 1, 2, 4, 5, 6, 7.

TEUCRIUM, Linn.**T. Scorodonia, Linn.***Common Germander.*

Heathy rocky commons and wastes, the outskirts of fir-plantations, and dry sandy banks and hedge-cops. *P.* July, August. Ascends to 1500 feet. Native. Generally distributed. Personal records in 1, 2, 4, 7; second-hand records in 1, 2, 4, 5, 6, 7.

BORAGINÆE.**ECHIUUM, Tournef.****E. vulgare, Linn.***Common Bugloss.*

A casual, except in Wirral. *A.* or *B.* June to August.

1. An occasional visitant; *Buxt. G.*
2. An occasional visitant, Lymm; (*Mr. John Moss*), *Gr. Flo.*
4. New Brighton; (*Miss Grundy*), *Flo. Liv.*
7. From a field opposite Hulme Lane, Bradshaw Brook, Lower Peover: an evident alien, growing with other aliens, *Crepis setosa*, &c.; I also had a specimen sent from a field in Higher Peover; In two other fields towards Simpson's, Lower Peover: brought with clover-seed. Not native except in 4. It occurs as a casual in crops in Cheshire; (*J. L. W.*), *Notes Ches. Fl.* p. 11.

PULMONARIA, Linn.**P. officinalis, Linn.***Lungwort.**P.* Spring to early Summer. Not native.

1. In a wood on the left bank of the Goyt between Compstall Bridge and Marple Aqueduct; *Buxt. G. and Gr. Flo.*

LITHOSPERMUM, Linn.**L. officinale, Linn.***Officinal Gromwell.**P.* Native. Extinct?

4. Plentiful amongst gorse in a field between New Brighton and Wallasey; *Hall, Flo.* Amongst furze between Wallasey and New Brighton, not abundant; *Dick. Flo.* ("We have not seen any specimens of this plant collected in our district, neither have we been successful in finding it, after searching during several years in all the likely places between Wallasey and New Brighton;" *Flo. Liv.*).

L. arvense, Linn.*Yellow Gromwell.**A.* Summer. Native.

1. Occasionally found in Werneth; *Sidebotham.*
2. Mobberley in 1858: only an occasional visitant, and apt to be lost through the change of the crops; *Gr. Flo.*
4. Lanes near Bidston stone quarry, rare; *Dick. Flo.* Near Egremont; *Flo. Liv.*

The two last localities are said in *Flo. Liv.* to be now destroyed.**MYOSOTIS, Linn.****M. palustris, Lamk.***Forget-me-not.**P.* Summer. Native. Generally distributed.

2. Baguley Moor; *Wood, Flo.* By the side of the canal at Altrincham; *Ib.* Abundant on the banks of the canal at Sale and Timperley; *Gr. Flo.* The Waterless Brook below Tabley Moat.
 3. Hatchmere, The Mere, S.E. side.
 4. Mentioned as common in the Liverpool Floras. Blacon Point; Canal-side, between Moston Bridge and Mollington.
 5. Common on the Dee at Chester; Lache Eyes; Aldford, &c.
- Our Cheshire plant is insignificant compared with that of the Thames banks. The Weaver plant is the finest.

M. repens, G. Don.*Creeping Forget-me-not.**P.* Summer. Native. Generally distributed.

1. Lindow Common; *Buxt. G. and Gr. Flo.* Near Staleybridge; *Baker and Webb.* By the Huddersfield road, near Woodhead.
2. Hale Moss, plentiful; *Gr. Flo.* Tile pit, Marston; Reddish; *Sidebotham.* Moor on east side of Knutsford, below the railway.

3. Frodsham Marsh; (*J. F. R.*), *App. Flo. Liv.* Hatchmere, S.E. side; Flaxmere.
4. Omitted in *Hall, Flo.*, and *Dick. Flo.* only says, "Wet boggy ground and ditch-sides, not uncommon, Crosby and Formby," which gives no Wirral station.
5. [Rather rare, I think: a pond at Kidnal is the only station where I recollect seeing it; *A. H. Wolley Dod.*]
7. On some land of Sir Harry Mainwaring's on Rudheath, in a trench which cuts the moss. Probably on most heaths throughout the county, but easily overlooked.

M. sylvatica, Hoffm.

A. or B. May to September. Native.

1. Marple Wood, and other woods in Marple Vale; *Buxt. G. Styal*; *Gr. Flo.*
2. Cotterill Wood, plentiful; *Wood, Flo.*, *Buxt. G.*, and *Gr. Flo.* Several woods in Reddish Vale, abundant; *Buxt. G.* and *Gr. Flo.* In a wood between Tabley Moat and the Waterless Brook.

M. arvensis, Lamk.

Field Forget-me-not.

A. or B. Summer. Native. Generally distributed.

1. Very common according to the Manchester Floras. Ascends to 900 feet above Hollingworth; *Baker and Webb.*
2. Tabley district.
4. Common according to the Liverpool Floras.

Var. umbrosa, Bab.

5. The south woods of Eaton Hall grounds, Chester.

M. collina, Hoffm.

Small Forget-me-not.

A. May to July. Native.

3. Rocky roadside bank near Dunham-on-the-Hill Station; Banks in Beeston Castle enclosure.
4. Frequent on the sandhills as well as dry banks about Bidston, Tranmere, &c.; *Hall, Flo.* Common in Wirral on dry hedge-banks and sandhills; *Dick. Flo.*

M. versicolor, Rehb.

Parti-coloured Forget-me-not.

A. Spring to early Summer. Native.

1. Hedge-banks and cultivated fields, common; *Buxt. G.* Very common; *Wood, Flo.*
2. Plentiful about Baguley and Carrington; *Gr. Flo.* Ride Wood; Blackpit, &c.; Holford Meadows.
3. Dunham-on-the-Hill; Delamere district, frequent; Sandy fields on the west edge of Oakmere; Peckforton Hill.
4. Plentiful in Wirral according to the Liverpool Floras. Hoylake (a single specimen).
5. [Not very common, but general in the Malpas district; *A. H. Wolley Dod.*]
7. Buerton Heath, Lower Peover, not uncommon.

LYCOPSIS, Linn.**L. arvensis, Linn.***Field Bugloss.**A.* Summer. Native or colonist.

1. Wimslow; *Hall, Flo.* In a quarry near Staleybridge, root-leaves only; *Baker and Webb.*
2. Fields and lanes at Bowdon, common; Cornfields in the neighbourhood of the River Mersey, near Hollins Green; *Buxt. G.* Rare about Bowdon, towards Mr. Neild's model farm, and elsewhere in the district, extending from there to Didsbury; *Gr. Flo.*
3. In a quarry near Dunham-on-the-Hill Station.
4. Common on the sandhills on the shores of the Mersey, and occasionally on the waste ground inland; *Hall, Flo.* Gayton Lane, where it reaches the coast.
5. Lane south from Boughton (shown to me by the *Chester Society*).

Native in 4, but a mere colonist, like *Echium*, elsewhere. Mr. Watson's lists show this to be one of the commonest plants in England, and yet I believe the whole of Central Cheshire does not produce it native.

ANCHUSA, Linn.**A. sempervirens, L.***Evergreen Alkanet.**P.* May and June. Not native. Rare.

2. On a ditch-bank in a lane which bounds Dunham Park in a north-westerly direction; *Buxt. G.*
4. Hooton Park; (*Miss C. Grundy*), *Flo. Liv.*

BORAGO, Linn.**B. officinalis, Linn.***Borage.**A.* or *P.* Summer. Not native. (An escape.)

4. By the roadside west of Bromborough Station, shortly before the turn to Raby Mill.

SYMPHYTUM, Tournef.**S. officinale, Linn.***Officinal Comfrey.**P.* May and June. Native.

1. Mentioned as "not common" in *Wood, Flo.* Roadside at Millbrook, root-leaves only; *Baker and Webb.*
2. Tabley Park.
4. Near Wallasey Church; (*J. Glover*), *Hall, Flo.* Fields between Hoylake and West Kirby; (*Skellon*), *Dick. Flo.* Near Hoylake Lighthouse; (*H. S. Fisher*), *Flo. Liv.* Ellesmere Port; (*Bennett*), *Id.*

Var. patens, Sibth.

5. [Near Broxton Hall; *A. H. Wolley Dod.*]

CYNOGLOSSUM, Linn.

C. officinale, Linn.*Officinal Hound's-Tongue.**B.* Early Summer. Native. Local.

4. Banks of the Mersey, abundant; *Hall, Flo.* and *Flo. Liv.*
The Scrub north of Gayton Cottage.

A very common plant all along the sandhills, *e.g.* New Brighton, Wallasey, Leasowe, Parkgate, West Kirby, Hoylake. It can grow among the shifting sands nearest the sea, where only a few *Triticums*, *Ammophila*, and an occasional *Glaucium* will maintain itself; and I have seen it in hedges a mile or so inland abreast of Heswell, &c. The zone of *Salix repens*, *Thymus*, *Gentiana campestris*, *Rosa spinosissima*, &c., is more away from the coast, where the sand has become more hardened and glacial, and does not drift.

UTRICULARIÆ.

PINGUICULA, Linn.

P. vulgaris, Linn.*Common Butterwort.**P.* May to July. Native.

1. Heights above Lyme Park; Boggy places on the hills generally beyond Staleybridge; *Gr. Flo.*
 3. Bog near Frodsham; (*J. F. Robinson*), *Flo. Liv.*
 4. Thornton Hough; (*J. Harrison*), *Dick. Flo.* Plentiful on some marshy ground on the hill east of Thurstaston; *Ib.* Thurstaston; (*Miss C. Grundy*), *Flo. Liv.* Stream-side at Raby; (*W. H. Hatcher*), *Flo. Liv.* Raby; (*Dr. Collingwood*), *Proc. Liv. L. and P. Soc.* xv. p. 14.
 5. [Formerly grew very sparingly in a small swamp between Edge and Whitney Lane, but is now extinct from drainage; *A. H. Wolley Dod.*]
- [Occurs also in 7. See *Notes, Ches. Fl.*]

UTRICULARIA, Linn.

U. vulgaris, Linn.*Common Bladderwort.**P.* Summer. Native.

2. Seaman's Moss pits, near Altrincham; *Wood, Flo.* and *Buxt. G.* (Locality now drained and plant lost.) Plentiful in two or three pits on Damhead Farm, Mobberley; *Gr. Flo.* Ditch in Moss Lane, between Moore and the Canal. General in 2, but not often in flower. It flowered last year (1865) in a pit 300 yards N.W. of the Tabley Round Wood, in the next field but one to the Rinks; Also in the pits of Lennard's Wood, with *Alisma ranunculoides*; It occurs flowerless in at least two other pits in Tabley Park, one called the Wang Pit, between Sudlow Farm and

the Serpentine, the other a store for fish, opposite Sudlow Lane, where "Sudlow" is written on the Ordnance Map; It is plentiful also in trenches on Knutsford Moor; The Rosary pit; Tabley Garden Wood.

3. Thornton Marsh; *Flo. Liv.* Dykes below Frodsham; *Ibid.* Pit near Peek Mill, Dunham.
4. Ponds about Woodside and in other parts of Wirral, not infrequent; *Dick. Flo.* Pit in the first field by the footpath from near Great Meols Station to Greasby; *App. Flo. Liv.* In several old marl pits about Irby; *Ibid.*
5. Pit in "Rake Side," Saughton.
7. Brookhouse Moss, near Congleton, June 1846; *Sidebotham.* The "Rundle" ditch, near Lower Peover Churchyard.

[*U. neglecta*, *Lehm.*

P. Late Summer. Native.

5. In nearly every pond between Edge and Carden, but rarely flowering; *A. H. Wolley Dod.*]
6. Wybunbury Moss; (*E. S. Marshall*), *J. of B.* 1896, p. 136.]

U. minor.

Smaller Bladderwort.

P. June to September. Native.

1. Lindow Common; *Gr. Flo.*
2. Hale Moss, near Altrincham; *Wood, Flo.*; *Bux. G.*; and *Gr. Flo.* Carrington Moss; *Bux. G.* Flowered plentifully in 1864 and 1865 in a small pit in the next field to Tabley Red Lodge.
3. Thornton Marsh; *Flo. Liv.* Pit-holes in the north swamp at Hatchmere; Pits in centre of the swamp on Newchurch Common, by the letter "N" in Ordnance Map.
5. [Pond near Tilston Church, flower not seen; *A. H. Wolley Dod.*]

[Captain Wolley Dod notes that in the above pond, near Tilston Church, he found specimens which Messrs. Arthur Bennett and E. F. Linton think may be *U. Bremii*, Heer, though, in the absence of flowers, they leave the identification doubtful; *J. of B.* 1893, p. 372.]

7. Brookhouse Moss; *Sidebotham.* In a pit on the edge of Rudheath, about a quarter of a mile north of the "Three Greyhounds," but not in flower; In one of the main trenches on Brookhouse Moss.

Much rarer than *U. vulgaris*, but probably often overlooked. The bloom of *U. minor* is very ephemeral, as a pit contained from 50 to 100 flowers in bloom the day I found it, and a fortnight after I could find not one.

PRIMULACEÆ.

HOTTONIA, *Linn.*

H. palustris, *Linn.*

Water Violet.

- P.* Early Summer. Native.
2. The ditches, Moss Side, Halton Moss.
 3. Trenches of the low meadows about Frodsham towards the river, and between it and Helsby; (*Robinson and J. L. W.*), *Flo. Liv.* The Marsh Lane ditches, Ince; Ditches, Frodsham Marsh; Bridge Trafford.
 4. Near Bebbington; *Hall, Flo. and Dick. Flo.* Not infrequent in ponds in Wirral; *Dick. Flo.* About Bromborough; (*Dr. Dickinson*), *Flo. Liv.* West Kirby (*Mrs. F. Boulton*), *Flo. Liv.*
 5. "Moat" pit," two miles S.E. from Chester (where it was shown to me by the *Chester Society*); Ditches in river meadow, Bridge Trafford. [Very abundant in almost every pond, though comparatively seldom flowering; *A. H. Wolley Dod.*]

PRIMULA, *Linn.*

P. acaulis, *L.*

Primrose.

- P.* Spring. Native.
1. Alderley, under the Edge; Valley of the Bollin, near Cotterill Clough; *Gr. Flo.* The other Manchester Floras speak of it as common.
 2. Plentiful about Cheadle; Plentiful about Lymm, especially in Thelwall Rough; Between Ashton-upon-Mersey and Partington, in meadows near the river; *Gr. Flo.* Abundant in the northern part of this Hundred, according to *Hall, Flo. and Buxt. G.* Tabley Park.
 4. Very common in Wirral, according to the Liverpool Floras.
 5. Pulford; Aldford; Eaton Hall grounds.

P. veris, *L.*

Cowslip.

- P.* Spring. Native.
2. About Ringway, common; *Wood, Flo.; Buxt. G.* In a field near Ashton-upon-Mersey; *Buxt. G.* Fields between Bowdon and Cotterill, and near Rostherne; Fields at Lymm and Warburton; *Gr. Flo.* Field by the Peover Brook, for a quarter of a mile before it joins Waterless Brook, not common.
 3. About Weaverham and Calveley.
 4. In a field near the Mount, Upper Tranmere; Amongst gorse-bushes at the back of the sandhills at New Brighton; Bebbington; *Hall, Flo.; Dick. Flo.* Little Sutton; Wallasey; Hoylake; *Dick. Flo.* Mentioned as "frequent" in *Flo. Liv.*

5. [Common in most of the meadows in the Malpas district; *A. H. Wolley Dod.*]

6. Railway banks about Crewe, both north and south.

7. Much more plentiful about Lower Peover than at Tabley, *e.g.* about the Crown Farm.

Should this come into the hands of a Southern botanist, he will be surprised at my giving the distribution of the Cowslip.

[*P. acaulis* \times *versis* is reported from 1, a field behind Castle Mill, near the entrance to Cotterill Clough; *Gr. Flo.* 4. Hedge-bank near Soughall Massie, towards Greasby; *App. Flo. Liv.* 5. Occasional about Edge Park; *A. H. Wolley Dod.* 7. In a lane leading south from Lower Peover Mill; *J. L. W.*]

LYSIMACHIA, Linn.

L. vulgaris, Linn.

Yellow Loosestrife.

P. Summer. Native.

1. Wooded banks of the Mersey at Stockport; *Gr. Flo.* I have seen it about Ashton-on-Mersey, but I am not sure whether in Cheshire or not.

2. Near the borders of Mere Mere, common; *Wood, Flo.*; *Buxt. G.*; and *Gr. Flo.* Rostherne Mere, *Buxt. G.* and *Gr. Flo.* Canal-bank at Dunham; *Gr. Flo.* Uncommon, but grows plentifully in the willow-bed at the N.E. end of Pickmere Mere, and sparingly in a hedge on Black Hill Farm; Nearly all round Rostherne Mere; Mere Mere, common.

3. Frodsham Marsh; (*Robinson*), *Flo. Liv.* Hatchmere; *Mr. Manning.*

4. Bebbington, &c.; *Dick. Flo.* and *Flo. Liv.*

5. By the Dee, below Huntington Hall.

7. Lower Peover.

L. punctata, L.

An escape.

1. Hedge-bank for twenty yards on the east side of the road between Micklehurst and the county boundary: a good station; *Baker and Webb.*

L. Nummularia, Linn.

Creeping Jenny.

P. Summer. Native.

2. Rostherne Mere, *Buxt. G.*; *Gr. Flo.* In the ditches by the path leading through the fields from Dunham Park to Bollington; *Gr. Flo.* Abundant round Tabley Lake, 1870.

3. Ditch-bank, Frodsham; (*Robinson*), *Flo. Liv.* For 150 yards of ditch along the road to Ridley Hall Farm, from the mainroad south of Spurstow.

4. Mentioned as common in the Liverpool Floras, but no Cheshire stations given.

5. Lache Lane; *Chester Society.* Near the Dee, Meadow Plantation, Eaton Hall grounds. [Meadows by the Dee, near Shocklach; *A. H. Wolley Dod.*]

Local, but no doubt occurs in all the Hundreds.

L. nemorum, Linn.

Yellow Pimpernel.

P. Summer. Native.

1. Mentioned as common in the Manchester Floras.
2. Tabley Park.
- 4 ? Frequent round Liverpool; *Hall, Flo.* and *Dick. Flo.*

ANAGALLIS, Linn.

A. arvensis, Linn.

Poor Man's Weather-glass.

B. May to October. Native.

[No doubt occurs throughout the county, but localities are not mentioned by the author. The Liverpool and Manchester Floras mention it as common. In "The City Flora" it is noticed as growing in Curzon Park, Chester.]

Var. cœrulea.

1. In a field between Gatley and Sharston; (*Mr. Glover*), *Buxt. G.*
2. A single plant in a weedy part of Tabley front garden, 1863.
4. Abundant near Egremont; *Dick. Flo.* Mentioned as rare, but without localities, in *Flo. Liv.*

A. tenella, Linn.

Bog Pimpernel.

P. Summer. Native.

1. Roadside spring at Siddington; (*Holland*), *Gr. Flo.*
2. Baguley Moor; *Wood, Flo.*; *Buxt. G.*; and *Gr. Flo.* Bowdon Moss; *Wood, Flo.*
3. Fish Pool, Delamere; Hatchmere.
4. Sandhills between New Brighton and Wallasey; *Hall, Flo.* Common in boggy places in Wirral; *Dick. Flo.* Occasional inland, but frequent near the coast; *Flo. Liv.* The "*Pinguicula* ground," Raby.
7. Local on the little waste before the cottage, S.E. corner of Peover Heath.

CENTUNCULUS, Linn.

C. minimus, Linn.

Bastard Pimpernel.

A. June to October. Native.

2. Hale Moss, but not plentiful; Lindow Common, plentiful; *Buxt. G.* Margin of Pickmere; Abundant round Mere Mere in 1870.
4. Damp places where the turf has been pared alongside of Greasby Brook, on the east border of Thurstaston Common; (*Webb and Fisher*), *App. Flo. Liv.*
- [5. Rare, Edge Green; *A. H. Wolley Dod.*]
7. Inside Peover Heath towards the south side, in little glareal depressions which in winter are two or three inches deep in water, plentiful. Probably not uncommon, but extremely liable to be passed over. The only three places I have seen it in are those which I have been enabled to search foot by foot, from my having constant access to them, with no fear of trespassing before my eyes.

GLAUX, *Tournef.***G. maritima**, *Linn.**Black Saltwort.**P.* Summer. Native.

2. Norton Marsh.
3. Shore under Ince Hall; On the mud of Frodsham Score, and all along to Helsby.
4. Common, as Wallasey, Bromborough Pool, &c.; *Hall, Flo.* Common in the salt marshes; *Dick. Flo.* and *Flo. Liv.* Dee Side, The Cop, Chester.
5. The Cop, Chester.

SAMOLUS, *Linn.***S. Valerandi**, *Linn.**Brookweed.**P.* Autumn. Native.

3. Trench side between Lordship Lane and Moorditch Lane, west side; Frodsham Marsh.
4. In a marshy spot between Gilbrook and Wallasey Pool; On the right-hand side of the old Bidston road, about a quarter of a mile from Cleveland Cottage; *Hall, Flo.* Common about Hoylake; Southern summit of Great Hilbre Island.
5. The Lache Eyes. [Lower Wych; Also Oldcastle Mill; *A. H. Wolley Dod.*]

PLUMBAGINÆÆ.

ARMERIA, *Willd.***A. maritima**, *Willd.**Thrift.**P.* Spring to Autumn. Native.

2. Norton Marsh.
3. Shore under Ince; Frodsham Score.
4. Muddy inlets of the Mersey, as Wallasey, Bromborough Pool, &c.; *Hall, Flo.*; *Dick. Flo.*; and *Flo. Liv.* Dee Shore, The Cop, Chester; Shotwick Rifle Range; Hilbre Island, in the short turf of its summit.
5. The Cop, Chester.

STATICE, *Linn.***S. Limonium**, *Linn.**Sea-Lavender.**P.* July to November. Native.

3. Muddy inlets of the Mersey, as Wallasey Pool, &c.; *Hall, Flo.* and *Dick. Flo.* Bromborough; *Flo. Liv.* Marsh strand between Eastham Ferry and Bromborough Pool, the only locality now left.

S. auriculæfolia, *Vahl.**P.* Summer. Native.

4. Stated as growing on Hilbre Island in *N. B. G.*, but it is not now found there; *Dick. Flo.* Record confirmed in 1870; *Flo. Liv.*

PLANTAGINÆÆ.

PLANTAGO, Linn.

P. major, Linn.

Greater Plantain.

P. May to September. Native.

[Doubtless common everywhere, but beyond statements to that effect in the Manchester and Liverpool Floras (1, 2, and 4), in "The City Flora" (5), and a record among the author's MSS., Tabley Park (2), there is nothing to go upon.]

[*Var. intermedia* (Gilib.).3. Sandy field, Frodsham; (*F. A. Lees*), *R. C. Rep.* 1881.]**P. media**, Linn.

Honey Plantain.

P. Summer to Autumn. Native.

2. Sale; Near Seaman's Moss, rather sparingly; *Buxt. G.* Bank of the canal near Seaman's Moss Bridge; Formerly near Bowdon Old Church by the roadside, but now shaved away; *Gr. Flo.* Bank by the canal between Dunham Massey and Seaman's Moss Bridge.

4. Hilbre Island; (*Marrat*), *Flo. Liv.* Field off Woodchurch Road and Eastham; Meadow at Oxtun; (*Id.*), *Proc. Liv. L. and P. Soc.* xvi. p. 12, and (*Mrs. F. Boulton*), *Flo. Liv.* The shooting ground near Blacon Point.

5. Sparingly near Chester; (*H. C. Watson*), *Cyb. Brit.* iii. 495 (1850). Canal basin, Chester; *Chester Society*.

7. Common round Congleton; *Gr. Flo.* This one would expect on the Millstone Grit; I have seen it myself there.

A rare and local plant.

P. lanceolata, Linn.

Common Rib-grass.

B. or P. Spring to Autumn. Native.[The remarks under *P. major* apply here also.]**P. maritima**, Linn.

Sea-Plantain.

P. June to September. Native.

2. The river border of Norton Marsh; Richmond Marsh.

3. Frodsham Score.

4. Muddy inlets of the Mersey, as Wallasey, Bromborough Pool, &c.; *Flo. Liv. &c.* The Cop, Chester.

5. Dee Cop, Chester.

P. Coronopus, Linn.

2. About Bowdon and Altrincham; *Wood, Flo. and Buxt. G.* Knutsford Racecourse, abundant; *Gr. Flo.* Norton Marsh: forming in places a large portion of the turf; Knutsford Racecourse, rather plentiful; An old station under Knutsford Gaol walls; Copiously under the Park

- palings at Booth's Obelisk, the best inland station I know; Sparingly between Toft Lodge and the "Dun Cow," Ollerton; Ollerton Heath, not abundant.
3. East margin of Hatchmere; Budworth Common; Side of a lane under Peckforton Hill to the west; Near Witton Mill Dam, 1870 (a single plant).
 4. Hilbre Island and Dee Shore; *Dick. Flo. and Flo. Liv.* The Cop, Chester; Gayton Lane; Slopes and bases of the city walls, Chester; Wallasey, rather high on the rocks near the Church; Plentiful in some stonework under Leasowe Castle; Hoylake, N. No doubt very general in Wirral.
 5. Dee Cop, Chester.
 7. Abundant in Rudheath by the roadside about three-quarters of a mile S.E. of the "Three Greyhounds."

LITTORELLA, Linn.**L. lacustris**, Linn.*Shore-weed.**P.* July to September. Native.

1. Lindow Common; *Burt. G. and Gr. Flo.*
2. Sides of ponds and marshy places on Baguley Moor; *Wood, Flo.; Burt. G.* By ponds at Baguley, on the site of the extinguished moor; *Gr. Flo.* Margin of Mere Mere; *Gr. Flo. &c.*
3. Banks of a pond near Frodsham; (*J. F. R.*), *Flo. Liv.* Shallow water east side of Hatchmere; Oakmere.
4. On the borders of a pond near Oxtan; *Hall, Flo.* Abundant in wet places on Bidston Hill; *Dick. Flo.* Heswell Hill; (*Skellon*), *Flo. Liv.* Thurstaston Common, abundantly; (*Fisher*), *Flo. Liv.* Abundant on Frankby Mere; (*Fisher and Webb*), *Proc. Liv. L. and P. Soc.* xv. p. 13.

CHENOPODIACEÆ.

SUÆDA, Forsk.**S. maritima**, Dumort.*Herbaceous Seablite.*

Marshy ground occasionally overflowed by the sea, salt marshes and maritime sands. *A.* July to September. Native. Fairly diffused round Wirral. Shore.

4. Along the Parkgate shore; (*Miss E. Potts*), *Hall, Flo.* Wallasey Pool; *Ib. Dick. Flo. and Flo. Liv.* say frequent in muddy inlets and salt marshes, and latter states that *var. β. procumbens* occurs on the sandhills. Very abundant in a salt marsh on the coast, say a mile south of Parkgate; A plant or two on Hilbre Island; Also on the shore south of Hoylake; A plant or two near *Salsola (q.v.)* at Leasowe; Profusely deep down in the channel of Bromborough Pool, actually under water in many places at full tide.

SALSOLA, Linn.**S. Kali**, Linn.*Prickly Saltwort.*

Sandy ground close to the shore. *A.* July to September. Native.
Fairly diffused on the North and East coast. Shore.

4. Sea-shore at New Brighton; *Hall, Flo.* Occurs in good quantity about a mile north of Gayton Cottage; and farther down the coast on the sandy ground under Caldy on to West Kirby; *Webb.* Dove Point; *Brown.* Fine and abundant on the shore about a mile and a half south of the Royal Hotel at Hoylake; The breakwater just below Leasowe Castle. Both *Dick. Flo.* and *Flo. Liv.* generalise, and state that it is a frequent plant on the "shore from the Dee to Southport."

SALICORNIA, Linn.**S. herbacea**, Linn.*Jointed Glasswort.*

Marshy muddy ground under tidal influence. *A.* July to September. Native. Locally diffused round Wirral to Bromborough. Shore.

4. Wallasey Pool, &c.; *Hall, Flo.* Muddy shores of the Mersey; (*Watson*), *N. B. G.* Ditto; *Hall, Flo.* Ditto, and of the Dee; *Dick. Flo.* Muddy shore, frequent; *Flo. Liv.* I have seen a few plants on the marsh below Puddington; A few on a small patch of marshy ground under the sea-wall north of Parkgate; and a few between the Hilbre Islands; *Webb.* A marsh, say a mile south of Parkgate, where you literally walk upon it, and many specimens are rankly grown; On a flat opposite Bromborough Candleworks, but I only noticed it here along the Pool.

Apparently at the present day not found on the north or east shores of Wirral.

CHENOPODIUM, Linn.**C. album**, Linn.*White Goosefoot.*

In waste and cultivated ground, dunghills, &c. *A.* July, August. Native. Generally distributed. Personal records in 1, 2, 3, 4, 6, 7; second-hand records in 1, 2, 4, 5, 6, 7.

The variety *β. viride*, Linn., has been reported from 1, 2, 4, 5, 6, and the var. *γ. paganum*, Syme, from 2, 4, 5, 6. I can answer personally for both in 2.

[*Var. incanum*, Moq.

5. Common in this district, but less so than var. *paganum*; *A. H. Wolley Dod.*]

C. ficifolium, Sm.*Fig-leaved Goosefoot.*

Garden ground. *A.* August, September. Colonist or casual. One or two stations.

5. A plant observed in a garden near the Pepper Gate, Chester, August 1870, and one or two more in another garden nearly under the Suspension Bridge.

Is this plant a better native in our country than *Mercurialis annua* and *Diploxaxis muralis*, plants to me of similar claims and environment? In 1867 I raised from Kilburn seeds a few plants of it at Tabley, and even in three years it has spread as a weed in different places through a kitchen-garden of two acres.

C. murale, Linn.

Nettle-leaved Goosefoot.

Waste ground generally near to villages or dwellings, but sometimes occurs otherwise near to the coast. *A.* July, September. Native. Thinly diffused on the north and west coast of Wirral. Casual inland. Shore.

1. Seen as a casual on rubbish heaps in a quarry on Mottram road above Staleybridge; *Baker*. As a casual by the canal below the colliery north of Furness Vale; *Webb*.
4. Parkgate shore; (*Miss E. Potts*), *Hall, Flo.* Has also been found near Egremont; Woodside; Hoylake; *Dick. Flo.* Near Little Neston towards Willaston; *Webb*. Near Backwood Hall towards Parkgate; (*Field Club*), *App. Flo. Liv.* As a ballast plant at Seacombe; (*Brown*), *Flo. Liv.* A single plant from a little south of Parkgate; In the stonework of the breakwater a quarter of a mile north of Hoylake; In a field-edge on the Wallasey side of Leasowe Castle.

Only native in Cheshire as a sub-littoral plant.

C. urbicum, Linn.

Upright Goosefoot.

By roadsides and in waste places, chiefly near dwellings. *A.* Late Summer.

3. Over, October 1826; (*W. Wilson*), *Bot. Misc.* ii. p. 406.

Note.—The above record is the ground for insertion of “Chester” in *Topog. Bot.* p. 330, as I am informed by Mr. Watson. There is no recent record of its occurrence.

C. rubrum, Linn.

Red Goosefoot.

On waste newly-disturbed ground of various descriptions. *A.* August, September. Native or colonist. Thinly dotted (except hills) throughout. Shore and plain.

2. Frequent in waste places about Bowdon; *Gr. Flo.* Several plants in successive years in Tabley kitchen-garden, but scarcely worth entering as the seed was certainly imported.
3. Cottage dunghill at the turn of Hobb Lane into Rake Lane near Dunham; *Newbould and Webb*. On some recently turned ground by a new breakwater by the river-side below Weaverham.
4. Passed over as “frequent” in the Liverpool Floras through lack of localities. By a pit near to the bridge a short distance below Shotwick Church; On mud cleared out of Finchett’s Gutter and heaped alongside close under Blacon Point, 1873; *Newbould and Webb*. Field outside the dock wall between Birkenhead and the Dock Cottages; *Brown, sp.*

5. Abundant in shallow pits at Green Looms near Waverton; and on the margin of a pit between Stretton and Wetrains Green; *Brown*. Rubbish dépôt, Lache Lane, near Chester; Near the Baths and on waste ground north of Rood Eye viaduct.
6. Beam Heath near Nantwich; *J. E. Bowman, sp.*
7. A dozen plants by the roadside near a manure heap, Old Crown Inn, Lower Peover, August 1870.

C. olidum, Curt.*Stinking Goosefoot.*

Introduced with ships'-ballast.

"Has occurred . . . at (4) Birkenhead, Seacombe, and Egremont;" (*Fisher and Brown*), *Flo. Liv.* Rubbish heaps at (2) Broadheath 1859; *Hunt*. Waste land at Ashley Station (2).

C. glaucum, Linn.*Glaucous Goosefoot.*

Introduced with ships'-ballast.

"Was found in 1871 and 1872 in fair quantity, intermixed with *C. rubrum*, on the waste ground outside the Dock walls, near the Mahogany Sheds, Birkenhead;" *Brown, sp.* 1874, and *Sec. App. Flo. Liv.*

C. Bonus-Henricus, Linn.*Mercury Goosefoot.*

In waste places by roadsides, principally near villages and dwellings; also country churchyards. *P.* June to August. Ascends to 900 feet. Colonist. Thin but equal distribution. Personal records in 1, 2, 4, 5, 7; second-hand records in 1, 2, 4, 6.

1. By some cottages at Badger's Clough near Disley; *Webb*. A plant or two near Godley Junction.
2. Near to Sale Hall; Near the Church of Ashton-upon-Mersey, plentiful; *Buxl. G.* and (for the latter station) *Hunt, sp.* A small patch on Knutsford Heath near Love Lane. This has maintained itself many years to my knowledge and has spread. Still spreading, 1870.
4. About Wallasey; Bidston; Eastham, &c.; *Hall, Flo.* Ditto; *Dick. Flo.* "Frequent;" *Flo. Liv.* Upper road between Ness Out and Ness; Shotwick; *Webb*. Waste ground at Wallasey; *Lewis, sp.* About the colliery south of Parkgate, and by the roadside now and then on to Neston; Roadside near Hoylake; In Wallasey Churchyard.
5. In a hedge by the roadside just south of the Bache Pool near Chester; Littleton; Little Heath Pond, Christleton; Roadside between Christleton and Boughton.
6. Entering Wrenbury from the station, and in Wrenbury Churchyard; *Webb*.
7. Lower Peover Churchyard, sparingly.

The stations of this plant seem always to me more or less suspicious.

ATRIPLEX, Linn.**A. littoralis, Linn.***Shore Orache.*

The banks of tidal rivers and inlets, and the trenches that are cut on sea marsh-lands. *A.* July to September. Native. In two or three places on the coast. Shore.

4. Wallasey Pool, not uncommon; *Hall, Flo.* Near Eastham,

abundantly; (*Skellon*), *Dick. Flo.* Egremont; (*Fisher*), *Flo. Liv.* The edge of Bromborough Pool, between the Candle-works and its junction with the Mersey; A trench beyond the cottage stepping-stones on Bidston Marsh.

A. angustifolia, Sm.

Narrow-leaved Orache.

Waste places, roadsides, dunghills, and cultivated ground. *A.* July to October. Native. Distribution probably general.

1. Very abundant east and north of Staleybridge; *Baker*.
2. Plentiful and typical specimens from Bowdon, Broadheath, &c.; *Hunt, Hb.* Nearly everywhere, but more often on waste places and roadsides, dunghills, &c., than *A. serrata*, which prefers standing wheat, oats, &c. The stations are sometimes interchanged, but the case is generally as I have said, at least about Tabley.
3. Weaverham.
4. The various Floras agree to this being frequent in Wirral.
7. Lower Peover in cornfields, abundant.

I have given the distribution of this common and general species merely because some forms of it have been greatly confused.

A. serrata, Syme.

Upright Field-Orache.

In cultivated fields and occasionally waste ground. *A.* July to September. Native. Distribution (probably) fairly general.

2. Waste places, Timperley (labelled *A. erecta*, Huds.); *Hunt, sp.* A specimen or two from Bowdon, mixed with those of *angustifolia* from the same place; *Hunt, Hb.* A form very well diffused through cornfields in the Tabley district, and occasionally it is to be found in the stone pavements of farmyards. My specimens authenticated as this by Dr. Syme came from a cornfield on Tabley Hill.
4. Recorded in *Flo. Liv.* as seen in this part of the county, but without mention of localities.
7. Common in cornfields at Lower Peover.

Probably general; but for the reason stated under *A. angustifolia* I particularise stations also in this case.

A. deltoidea, Bab.

A. June to October. Native. One record.

2. Waste places, Broadheath, September 1869; *Hunt, sp.* I believe these specimens are correctly named; the only grain of doubt is between this and *Smithii*. Certainly this is a form which I have not seen in Cheshire. Dr. Trimen passed them subsequently to this note being written, adding, "This is a variety with interrupted spikes."

A. Smithii, Syme.

Smith's Orache.

In cultivated ground. *A.* August, September. Native. Distribution very imperfectly known.

2. Ashley, Cheshire, September 1869, and waste places, Timperley,

1869 (both labelled *A. hastata* a. *patula*, E. B.); *Hunt*, sp. I believe right, but given with a grain of doubt. No question of this being *deltoidea*, *Bab.*, but *might* be *angustifolia* on a dunghill. Dr. Trimen says of these two gatherings, "*patula*, not *hastata*."

4. Bidston; (*Lewis*), *Flo. Liv.*

5. Cornfield on the west outskirts of Guilden Sutton; *Brown*, sp.

A. triangularis, *Willd.*

Triangular-leaved Orache.

Mudbanks by the coast. *A.* August, September. Native. Thinly diffused (probably) along our coast. Shore.

3. Frodsham Score mudbanks.

4. Coast half a mile north of Parkgate. Passed by Mr. Syme.

I have never seen the common Middlesex "*deltoidea*," which is the type, inland in Cheshire.

A. Babingtonii, *Woods.*

Babington's Orache.

Rough, broken, and muddy ground by the coast. *A.* August, September. Native. Generally distributed along the tidal portions of the county. Shore.

2. Norton Marsh; Richmond Marsh.

3. The Rake Lane, Helsby Station.

4. Bidston; *Lewis*, sp. From the Dee to Southport, moderately; *Flo. Liv.* Probably general round the coast: I have seen it in quantity a quarter of a mile north of Parkgate, and at Bromborough Pool, nearly opposite to the Candleworks.

5. By Dee Cop, Chester.

A. arenaria, *Woods.*

Frosted Sea-Orache.

A. August, September. Native. Apparently in one limited station. Shore.

4. From a breakwater a quarter of a mile north of Hoylake, a fine specimen, but I believe I only saw a single plant. Dr. Dickinson's record of *A. laciniata*, *S. (sic)* at Hoylake probably applies to this species.

A. portulacoides, *Linn.*

Obione Sea-Orache.

Muddy banks of tidal inlets. *P.* August to October. Native. One existing littoral station. Shore.

4. Wallasey Pool, Seacombe side; (*Watson*), *N. B. G.* Ditto, very plentiful; *Hall*, *Flo.* Muddy inlets of the Mersey, abundant; *Dick*, *Flo.* "Salt marshes from the Dee to Southport;" *Flo. Liv.* I have a bare recollection of seeing this on the north side of Wallasey Pool on the muddy ground, through the crevices and gutters of which the tidal waters spread, and I know it on the slope of the Bromborough Pool just before it crosses the new Chester road: I have never seen it elsewhere in the Liverpool district; *Webb*. I found this only in two tufts of some extent at Bromborough Pool: once at its very junction

with the river, and again, say 150 yards higher up the pool-edge, both times on the opposite side to the Candleworks.

I understand that this species no longer exists at Wallasey Pool, having been destroyed at the time of the alterations already referred to, and it certainly is anything but abundant on muddy inlets of the Mersey generally, unless I have been very unlucky.

POLYGONACEÆ.

RUMEX, *Linn.*

R. conglomeratus, *Murr.*

Clustered Dock.

In ditches, margins of ponds, by canals, and other wet and swampy ground. *P.* June to August. Ascends to 600 feet. Native. Generally distributed. Personal records in 1, 2, 3, 4, 6, 7; second-hand records in 1, 2, 4, 5, 6, 7.

I have not found it at a greater elevation than the canal at Disley, for which 600 feet is a full estimate, I think; *Webb*.

R. sanguineus, *Koch.*

Red-veined Dock.

In open woods, plantations, ditch- and hedge-banks, and other shady places. *P.* June to September. Native. Probably general in its distribution. Personal records in 2, 4, 7; second-hand records in 1, 2, 4, 5, 6.

Var. a. viridis, *Koch.*

For Manchester district generally *Buxt. G.* gives "common," and *Gr. Flo.* "very common."

1. Seen only in two woods about Staleybridge; *Baker*. A frequent plant up to 500 feet, very fine in a wood on right-hand side of the road after passing through Furness from Whaley; *Webb*.
2. Common and general in Hundred 2; *Holland*. Rock Savage Woods; (*Robinson*), *App. Flo. Liv.* Ashley and Cotterill Wood; *Hunt, sp.* Near Tabley School. I believe common and general.
4. Hall does not give it. *Dick. Flo.* says not uncommon. Bromborough; (*Lewis*), *Flo. Liv.* (the only locality quoted). Common and general; *Webb*. Parkgate, ditches between the station and the town, and apparently general.
5. Tattenhall; *Lewis, sp.* I have noted it as rare in 5; *Webb*.
6. Common and general; *Webb*.
7. Close to Lower Peover Mill-dam.

I only give the distribution because this Dock is rather imperfectly known; but it is no doubt too common and general to require detail.

Var. β. genuinus, *Koch.*

Casual from gardens.

1. Brook at Bredbury Wood; At Middlewood, near Hazel Grove; Near Disley in several places; Near Strines, but introduced there from the other station; *Sidebotham*.

2. A ploughed field close to Withenshaw Hall, 1858; *Gr. Flo.*
7. A labourer brought me a specimen newly gathered some years back from between Rudheath and Newhall, 'which he declared "wild." I know nothing of its surroundings.

The nativity is dubious. It often spreads from cultivated plants, and was a great favourite in old herb-gardens.

I can answer for this plant spreading rapidly from a single specimen and becoming a weed for successive years in Tabley kitchen-garden, where a hundred or more plants are annually in the cinder-walks—indeed, wherever they can get a chance—all being the offspring of a single plant brought into the garden several years ago. The successive generations have all been perfectly true to the parent. The colouring matter does not appear to me confined to the veins, but is, as it were, blotted over the contiguous leaf-tissue, much as if the green leaf had been sprinkled over with red ink, and then laid upon an over-used sheet of blotting-paper.

R. maritimus, Linn.

Golden Dock.

On the strand of ponds and watercourses, generally near the sea-coast. P. July, August. Native. In one inland and a couple of coast stations.

2. In the fish-pond north-west of Holford Hall, in among the *Acorus Calamus*: there were about a dozen plants of this dock this year (1866).
3. The Fish Pool, Delamere.
4. Hoylake; (*Shepherd in Herb.*), *Dick. Flo.* Marshy field near West Kirby; (*Mrs. S. Boulton, Flo. Liv.* By the side of the Birket where it is crossed by a bridge about half a mile east of Great Meols: a few plants generally to be seen hereabouts: in 1874, with Mr. B. M. Watkins, we counted about a dozen; *Webb.*

R. palustris, Sm.

B. July, August.

Cheshire; (*J. E. Bowman, MSS.*), *N. B. G.*

On a grassy rubbish-heap near Staleybridge, with numerous introduced casuals, British and foreign; *Baker, sp.* 1874.

R. pulcher, Linn.

Fiddle Dock.

An introduced casual.

1. On a quarry rubbish-heap near Staleybridge, with the above, 1874; *Baker, sp.*
5. Rubbish dépôt, Lache Lane, near Chester—a single large plant.

R. obtusifolius, Linn.

Broad-leaved Dock.

Roadsides, ditches, pastures, open woods, waste places, orchards, &c. P. June to September. Ascends to 1750 feet. Native. Generally distributed. Personal records in 1, 2, 3, 4, 6, 7; second-hand records in 1, 2, 4, 5, 6, 7.

R. pratensis, M. & K.*Wallroth's Dock.*

Grassy wastes by roadsides, borders of fields, &c. *P.* July, August. Ascends to 800 feet. Native. In all probability generally distributed.

1. By the field-gate where the road from Goyts Bridge turns to go down to the Powder Mills; Under the wall on east side of the railway, at the crossing between Newtown New Mills and Furness; Embankment by the railway bridge over the Furness to Whaley road, sparingly in each locality; *Webb*.
2. Fairly common in my home district. I give Tabley Hill Lane as the first place where I found it. As stated in *J. of B.* vol. ix. (1871), p. 7, I met with it in Mersey as soon as I had learnt it in Middlesex.
3. Hedge-bottom on the right-hand side of the road from Helsby Station shortly before reaching Horns Mill, and in several places thence to Dunham and Thornton; *Newbould and Webb*. Moorditch Lane, Frodsham Marsh; Prestland Lane, Beeston Gate; Great Barrow.
4. In an orchard entering Little Neston; By the bridge over Neston Station; Frequent about Hooton (July 10, 1873); *Webb and J. L. W.* Common about Ledsham; By a pit near to the bridge a short distance below Shotwick Church; *Newbould and Webb*. Raby Watermill, W.
5. By the roadside between Barnhill Bank and Broxton Hall, and several other localities noted; *Webb*. Dee Bank, Meadow Plantation, Eaton Hall Grounds; Waverton Quarry; Banks of the Gowy south of Plemstall; Little Rood Eye, Chester.
6. Between Crewe and the railway bridge of the Nantwich Railway, over the road to Gresty Green, &c.; *Newbould*. Whitchurch to Tarporley highroad, about a quarter of a mile beyond the county boundary, very fine; In two or three places to the east of Audlem; *Webb*. Wybunbury; *Mathews, sp.*
7. Opposite to the Railway Inn ascending the ridge from Mow Cop Station, a few plants, 1873 and 1874; *Webb*. Lower Peover.

R. crispus, Linn.*Curled Dock.*

By roadsides, in cultivated fields, waste ground, pastures, dry or damp, wastes by the coast, &c. *P.* June to August. Native. Distribution general. Personal records in 1, 2, 3; second-hand records in 1, 2, 4, 5, 6, 7.

R. Hydrolapathum, Huds.*Water Dock.*

The edges of meres, canals, ponds, and in trenches and ditches. *P.* July, August. Native. Thin but even distribution.

1. Seen in Herb. Tinker from a pit near Mottram; *Baker*.
2. By the side of the Duke of Bridgewater's Canal near Lymm;

Buxt. G. Near Rostherne Mere; *Gr. Flo.* Mobberley, and about Tatton Mere; (*Holland*), *Add. Gr. Flo.* Rostherne; *Hunt, sp.* In Arley Wood, not a hundred yards from the New Lodge, N.W.; Again between the New Lodge and the Old, in a pit by the lane-side; Near the boathouse S.W. of Rostherne Mere; In the canal near Marbury Wood on Marston Hall farm, and in a pit adjoining it; Banks of the Mersey and Irwell Canal; Ditches, Moss Lane, Moore.

3. Pit in field on right-hand side, about two-thirds of a mile along Rake Lane from Dunham village; *Webb.* In great profusion by the canal-side, two miles south of Beeston Station, and elsewhere thereabouts; *Brown, sp.* In a swamp by the Nantwich Canal, N.W. of Beeston Station, near a place called Brockholes; Trenches on Frodsham Marsh; Thornton-in-the-Moors.
4. Fringing the canal at intervals between the "Viaduct" and the "Chorlton" bridge; *Webb and J. L. W.* Bidston Marsh; (*R. Tudor*), *Hall, Flo.* In ditches and ponds about Hoylake common; (*W. Harrison*), *Dick. Flo.* In plenty in the watercourses in the Lang Fields, under the hill at West Kirby; (*Fisher*), *App. Flo. Liv.* In ditches between Newton and Hoylake Station; and in pits close to Lingham (Leasowe), abundant; *Brown.* By the canal at intervals from Mollington to Moston Bridge, and in a little pool close to latter; Dee-side, The Cop, Chester.
5. Canal-bank near Waverton: in fact, this plant appears to line the canal, so to speak, throughout, on the side opposite to the towing-path; *Brown.* By the canal at Christleton; The Lache Eyes; Watercourses about Handley.
6. Canal by the bridge crossing from Nantwich to Ravensmoor; In the River Weaver, between Shrew Bridge and Nantwich; *Brown.* Canal at Steer Bridge; Mill Pool, and by the Meres at Marbury; *Id.* The canal-side at Wrenbury Wharf; *Webb.* In large clumps on the edge of Combermere Mere, especially towards the west corner.
7. Brought me fresh from somewhere on Rudheath Lordship.

R. Acetosa, Linn.

Sorrel Dock.

In meadows, moist pastures, open places in woods, and hedge-banks. *P.* May to July. Ascends to 1660 feet. Native. Generally distributed. Personal records in 1, 2, 3, 6, 7; second-hand records in 1, 2, 4, 5, 6, 7.

R. Acetosella, Linn.

Sheep-sorrel Dock.

In dry pastures and wastes on a heathy soil, broken sandstone ground, and in cultivated land, especially of a peaty character. *P.* May to July. Ascends to 1750 feet. Native. Generally distributed. Personal records in 2, 7; second-hand records in 1, 2, 4, 5, 6, 7.

R

POLYGONUM, Linn.**P. Convolvulus, Linn.***Climbing Polygonum.*

In cultivated ground, trailing among the crop, and on waste ground where the soil has been recently disturbed, and in hedges and thickets. *A.* July to September. Ascends to 900 feet. Native. Generally distributed. Personal records in 2, 4, 7; second-hand records in 1, 2, 4, 5, 6.

P. aviculare, Linn.*Knotgrass Polygonum.*

By roadsides, waste places, cornfields, and cultivated land, sandy and shingly ground near to the sea, &c. *A.* May to September. Ascends to 1000 feet. Native. Generally distributed. Personal records in 1, 2, 3, 4, 6, 7; second-hand records in 1, 2, 4, 5, 6, 7.

I follow Dr. Syme in his subdivision of this species, and give the particulars I possess of the distribution of the "forms" recognised by him. He remarks: "The *P. aviculare* of Linnæus probably includes several sub-species: but how many of the forms described be hereditarily distinct, we have at present no means of knowing."

Form I.—P. agrestinum, Jord.

2. Roadsides, Bowdon; *Hunt, sp.*
4. Little Sutton; ("J. D." *fide Lewis*), *Flo. Liv.*

Form II.—P. aviculare, Boreau (vulgatum, Syme).

1. Longside, Disley; *Webb, sp.*
4. Seacombe; (*Lewis*), *Flo. Liv.*
5. Tattenhall; *Lewis.*
6. Nantwich; *Crewe; Lewis.*

I believe merely a slight variety of *P. agrestinum*; *Syme, E. B.*

Form III.—P. arenastrum, Boreau.

1. Longside, Badger's Clough, near Disley; *Webb, sp.*
2. Broadheath; *Hunt, sp.* Roadsides about Knutsford, plentiful.
4. Frequent in Wirral; (*Lewis*), *Sec. App. Flo. Liv.* [Near West Kirby; *A. H. Wolley Dod.*]

Form IV.—P. microsperrum, Jordan.

2. Hsle Moss, Bowdon; *Hunt, sp.*
6. Waste ground at Clannor Heath, Wybunbury; *Newbould.*

Form V.—P. rurivagum, Jordan.

2. Bowdon; *Hunt, sp.* Cornfields round Knutsford, plentiful.
4. Frequent in Wirral; (*Lewis*), *Sec. App. Flo. Liv.*
5. Tattenhall; *Lewis.*

I believe distinct as a sub-species; *Syme, E. B.*

Form VI.—P. littoral, Link.

4. The Dee shore under Thurstaston, with *P. Raii*; and (formerly?) on the new-made ground by Wallasey Pool, plentiful; *Webb.*

I believe may prove distinct as a sub-species; *Syme, E. B.*

P. Rati, Bab.*Ray's Polygonum.*

The sea-coast in sandy-shingly places. *A.* or *B.* July, August. Native.
Locally on the north and west shore of Wirral. Shore.

4. Amongst shingle near a cottage on the banks of the Dee under Thurston; (*Webb*), *App. Flo. Liv.* At "Old Quay," south of Parkgate; A single plant under the parade wall at Parkgate, towards the Ferry House; The shore where the first lane beyond Gayton Cottage enters upon it; and in large quantity along the shore-margin of Heswell Heath; *Webb*. A specimen in good fruit from the north coast; Another from Lesser Hilbre Island; Also another three-quarters of a mile north of Parkgate.

P. Hydropiper, Linn.*Water-pepper Polygonum.*

In wet ditches on the edges of ponds and streams, and in hollows where water has stood during winter. *A.* July, August. Ascends to 800 feet. Native. Generally distributed. Personal records in 1, 2, 3, 6, 7; second-hand records in 1, 2, 4, 5, 6, 7.

P. minus, Huds.*Slender Polygonum.*

The strand of meres and ponds, hollows where water has stood in winter, and moist places on peat-land. *A.* August, September. Native. Distribution local and unequal. Chiefly east plain.

1. Lindow Common, near Wimslow, abundant; *Buxt. G.*
2. Ditches in the neighbourhood of Baguley Moor; Hale Moss; and in a field beside the footpath close to Jackson's Boat; *Wood, Flo. and Buxt. G.* Timperley; *Gr. Flo.* Ditch-sides near Hale Moss, 1869; Mere Mere, 1870; *Hunt, sp.* (In the last case so fine as easily to be mistaken for *mite*.) Knutsford Racecourse, with *Limosella*, and nearly to Tabley Toll-gate from the Pound; Mere Mere edge, abundant, 1870.
4. Bidston Hill; Near Stourton Quarries; *Dick. Flo.* Hoylake; (*Mrs. F. Boulton*), *Flo. Liv.* I have never seen it in Wirral, and only once in the Liverpool district; *Webb*.
5. On mud from a cleared trench between Mickle Trafford and Plemstall.
6. Beam Heath, near Nantwich; (*J. E. Bowman*), *N. B. G.* Ditto; *Garner, N. H. Staff.* In great quantity on the strand of Winterley Pool; On a swampy piece of ground opposite to the Inn near the Canal, a quarter of a mile out of Wrenbury village; *Webb*.
7. Peover Heath Covert, west side, among the trees: keep the Knutsford road for about a hundred yards after the corner, and then search about twenty yards in.

P. mite, Schank.*Lax-flowered Polygonum.*

Moist waste ground. *A.* August, September.

"Chester, *E. C. Rep.* 1859;" *Topog. Bot.* The notice in *E. C. Rep.* is, that "Mr. Hardy sends examples (of *P. mite*) gathered with *P. minus* at Mere, in Cheshire. It is new to the Mersey

Province." In *Phyt.* ii. p. 335, Mr. Watson had previously written (1845), "Cheshire specimens (of *P. mite*) are in the herbarium of Sir W. J. Hooker, sent by Mr. W. Wilson under the name of *P. minus*."

At a meeting of the Literary and Philosophical Society of Manchester, 29th November 1870, Mr. G. E. Hunt stated that, after searching unsuccessfully for *P. mite* for several seasons at Mere Mere, he could "only suppose that some luxuriant state of *P. minus* had been mistaken" for it. Mr. Hardy dissented, and "had not the least doubt . . . it would be proved in the course of another season to be an inhabitant not only of the Mere district, but common in other stations included in the Manchester Flora." At the meeting three months later, Mr. Hunt read a paper on "*Polygonum minus* and its allies," and stated that Mr. Baker confirmed him in calling the Wilson specimen at Kew *P. minus*,—not *P. mite*.

I give the above full particulars as the plant is a critical one, and it would be an interesting addition to the Cheshire flora. I say an addition, for I cannot consider that, with present information, we have a right to claim it. In the four years that have elapsed since the above discussion took place, I am not aware that there has been any verification of the Mere Mere locality. The *P. minus* specimens of Mr. Webb from Wrenbury are quite near enough to *P. mite* to be mistaken even by a botanist who knew both plants growing. I can well conceive now the *minus* at Mere assuming, in wet seasons, a similar form and being so mistaken.

P. Persicaria, Linn.

Spotted Polygonum.

Moist newly-broken ground; by the sides of ditches; on dunghills; in the cultivated crops of slovenly farmers and gardeners, and on peat-land recently brought under the plough. *A.* July to September. Ascends to 900 feet. Native. Generally distributed. Personal records in 2, 7; second-hand records in 1, 2, 4, 6, 7.

This is a species which includes four or five sufficiently distinct forms. The common plant of Cheshire potato-fields, where the farming is slovenly, comes in between *elatum* of *E. B.* and typical *Persicaria*, which is a local plant in Cheshire, but occurs at Mere Mere. *Elatum* is, I believe, not uncommon. I have it from the edge of Tabley Moat, and another locality is, Ditch on Hale Moss; *Hunt*. A third form bears very hard upon *mite*; I have gathered it on rubbish near Wimslow Station. (*N.B.*—The last form occurs not uncommonly about London, and deserves a letter of separation.)

P. lapathifolium, Linn.

Glandular Polygonum.

In cultivated ground, particularly where the soil is moist and peaty; on dunghills, and in waste places. *A.* July to September. Ascends to 900 feet. Native. Generally distributed. Personal records in 2, 7; second-hand records in 1, 2, 4, 6, 7.

P. nodosum, Pers.

Knotted Polygonum.

Damp (gravelly) waste ground. *A.* July to September.

2. Edge of Mere Mere, a small white-flowered semi-procumbent form (see *J. of B.* ix. p. 9).
3. Garden ground at Helsby Station, rather doubtful; *Newbould*.
4. Below Blacon Point, on mud cleared from Finchett's Gutter and heaped alongside, 1873; *Newbould*.
5. By the side of Bache Pool, a little too immature to be certain; *Newbould*.

P. amphibium, Linn.*Amphibious Polygonum.*

In meres and large ponds, extending over the strand and into the grass surrounding the same; in canals; about ditches; in marshy ground; in cultivated fields; and on hard dry wastes and by roadsides. *P.* July to September. Native. Generally distributed. Personal records in 2, 6, 7; second-hand records in 1, 2, 4, 5, 6, 7.

[*Var. terrestre, Leers.*

5. Below Lower Mill-pond, Edge; Between Lowcross and Duckington; *A. H. Wolley Dod.*]

P. Bistorta, Linn.*Snakeweed Polygonum.*

In meadows, by streams, in dampish open woods and wooded cloughs. *P.* May to August. Native in (say) half its stations. Rather prevalent in the hills and east plain; thinly dotted through the rest.

1. Near Stockport; (*Holme*), *B. G.* Gatley Carrs, very fine; *Gr. Flo.* All along the brook that runs down to Hollingworth, plentiful, and a fine wild station; *Baker.* Fields by the Goyt, between New Mills and Furness Vale; East side of the road between the Marple and Stockport road and Bosden House; Near Bredbury, &c.; *Webb.* I did not see it at all in the south part of the Hundred; *Id.* Footpath beside railway between Gatley and Northenden; Apethorne Wood, near Hyde; Between Compstall and Romily.
2. Orchard, Ashley; *Hunt, sp.* In the greatest profusion in many places in Mobberley, especially in meadows along the brook above the Mill-dam; Also along Marthall Brook; and in vast quantities about Morley, near the Bollin: the herbage in some of the fields in all these localities is in the Spring almost made up of this plant; *Holland.* Not uncommon: the best station is by the brook which joins Waterless Brook, higher up in a meadow under the foot-bridge at Mr. Ockleston's Tanyard; In the wood under the old Mill-dam, Tabley Old Hall; By the footpath from Knutsford to Mobberley; Streamlet by Mobberley Station. The Manchester Floras do not give localities, it being so plentiful in their district.
3. Woodhouses, sparingly; (*Robinson*), *Flo. Liv.* The mill-meads at Bradford Mill, $1\frac{1}{2}$ mile north of Over; (*Anon.*), *Phyt. N.S.* iii. p. 248.
4. High ground about Woodside; (*Watson*), *Hall, Flo.* Field by side of the Park Road West, Cloughton; (*Webb*), *Proc.*

Liv. L. and P. Soc. xv. 1861), p. 13. I believe destroyed in my Claughton locality; *Webb, MSS.*

5. [Drive to Edge Hill; Near Simmond's Green; *A. H. Wolley Dod.*]
6. Canal near Wrenbury; *Jebb.* The "Salt Spring" meadow near Audlem: I did not see it elsewhere; *Webb.* Seen from the train at Basford.
7. A plant or two in a lane near Twemlow.

The Old Hall station has a suspicious look, but it must be at least a century old. This sometimes looks native enough in Cheshire, especially, as I hear, on the high ground, though the majority of the Mid-Cheshire localities are not beyond doubt. The tenacity of its hold on stations chiefly spurious ought to advise caution in recording it, and as of *Acer*, I should say "guardedly native" in a small percentage of its records. Gerarde says it is called "in Cheshire Passhions and Snakeweede, and there used for an excellent potherbe." (*Ger.* p. 323.)

P. Fagopyrum, Linn.

Buckwheat.

Alien. Occasionally sown.

"Often among vetches sown as a crop. . . . Frequently sown for the use of game;" *Gr. Flo.*

"It is thought to be first brought out of Africa, but now is generally sown in most of our Northern Countries. . . . It prospers well in any ground, be it never so dry or barren. . . . It quickly comes up and is soon ripe, and is very common about Namptwich in Cheshire, where they sow it as well for Food for their Cattel and Poultry as for the use of making bread;" *Salmon*, p. 1247.

2. Single specimen in a garden, Rose Hill, Bowdon.
3. Oakmere; (*Robinson*), *Hunt, Hb.*

ELÆAGNEÆ.

Hippophae rhamnoides, Linn.

Sea Buckthorn.

A planted shrub near the coast.

"Woods on the shore at Hooton, probably introduced;" this is the record in *Flo. Liv.* The original record runs: "Near Eastham, where it appeared to have been planted. Subsequently at Calder (Caldy) on the Dee, apparently wild;" *Higgins in Proc. Liv. L. and P. Soc.* xiv. p. 30. As far as wildness goes, I might just as well add, in a garden at Parkgate (where there were also scattered seedlings).

THYMELEÆ.

DAPHNE, Linn.

D. Laureola, Linn.

Spurge Laurel.

Woods. *P.* April, May. Nativity dubious. Nearly (perhaps quite) extinct. Plain.

1. Reported to have occurred in the grounds of R. H. Gregg, Esq., at Northcliffe Hall, Styal, by his gardener, Mr. Maclaren; *Grindon.* In woods at Styal; *Bux. G.* ed. ii.
2. On a woody bank near the river Bollin below Cotterill Wood; *Wood, Flo.*; *Bux. G.*; and *Hunt, sp.* 1856. "I found a

dozen specimens of it at Cotterill, January 1860;" *Hunt, MS. in Hb. and sp.* July 1860. Formerly abundant in Cotterill Clough, but much persecuted by gardeners; *Sidobotham*.

3. Reported as found in Bellaire Wood; *Flo. Liv.*
 5. Lache Lane about a mile from Grosvenor Bridge, Chester; Ridges Lane, Rowton; Hedges, "Rake Side," Saughton.
- Mr. Manning has or had another locality near Chester. He introduced me to the Rowton station, also to the Saughton one, which latter was, I think, found by Mr. A. Walker.

ARISTOLOCHIEÆ.

Asarum europæum, Linn.

Old and indefinite record.

2. Mr. Robinson informs me that there is an old record for this at Latchford near Warrington, but does not give more special reference.

EMPETRACEÆ.

*EMPETRUM, Linn.**E. nigrum, Linn.*

Common Crowberry.

The high heaths and moorland pastures and bogs in the low grounds. *P. May, June.* Ascends to 1837 feet. Native. Generally diffused in the hills, also on three or four plain mosses. Chiefly hills.

1. Bour Flat; *Walker*. Staley and other moors; (*Bradbury*), *B. G.* Very fine in large patches with Whortleberry on the moors back from Staley Brushes, at 200-400 yards, 1874; *Baker*. Common on all the moorlands in the Hundred: commencing to show in quantity at about 1000 feet, and a summit plant of the highest ground; *Webb*. Alderley and Cobden Edge, Strines; *Hunt, sp.* Moors beyond Woodhead Station; Covering the hillsides a little way up at Staley Brushes, above Woodhead Chapel; In Crowden Valley, &c.
2. Carrington Moss; *Gr. Flo.* By no means a stray plant on Carrington Moss: there is plenty of it and fine; *Holland*. Sparingly upon Knutsford Lower Moor.
3. Overton; *Warr. List*. Oakmers, sparingly; Newchurch Common.
6. Wybunbury Moss; *Webb*.
7. Congleton Edge; (*Okell*), *Lys. M. Brit.* Mole Cop and the other hills near Congleton; (*Watson*), *N. B. G.* Quantities upon "The Cloud" above Bosley Station; *Holland*. Congleton Edge and Mow Cop, abundant, 1874; *Webb*.

Of course on the high lands of East Cheshire *Empetrum* is common enough, beginning to show in force at about 1000 feet, but its comital distribution seems worth tracing minutely, and as so large a slice of Southern and Central England wants reliable record of this plant, any occurrence of it in Hundred 1 may prove

worth chronicling. We have it on three low-lying mosses, viz. a small marsh lying close to the town of Knutsford, on the south-east side; on Carrington Moss; and on Wybunbury Moss. The presence of *Empetrum*, and former presence of *Saxifraga Hirculus* at Knutsford, point to one fact: they are both relics of a much older flora, when perhaps continuous morasses connected the now highly cultivated plain of Cheshire with the hilly districts of the east. (See *J. of B.* ix. p. 7.)

EUPHORBIACEÆ.

EUPHORBIA, Linn.

E. Helioscopia, Linn.

Sun Spurge.

A weed in cultivated ground and waste places. *A.* June to October. Ascends to 900 feet. Native. Generally distributed. Personal records in 2, 3, 4, 6; second-hand records in 1, 2, 4, 5, 6, 7.

E. Paralias, Linn.

Sea Spurge.

On the shore side of the coast sandhills. *P.* July to September. Native. In three or four stations on the west coast of Wirral Shore.

4. A few plants on the small patches of sandy ground near the Colliery south of Parkgate, 1874; *Webb and J. L. W.* Abundant on the Dee shore near the village of Caldy; (*Skellon*), *Dick. Flo.* Also at Heswell; (*T. Sansom*), *Ib.* Hoylake; (*Brown*), *Flo. Liv.* I can confirm the Heswell station, having seen *E. Paralias* this year (1874) in abundance over a length of a hundred yards of what I call the shore margin of Heswell Shore Heath; *Webb.* It grows pretty freely in one limited station nearly under West Kirby on the shore, near some buildings marked in the old county map "coal yard;" thence ascending towards Hoylake, I found two or three more plants at intervals on the sandhills, the last being, say, a mile south of the Royal Hotel, Hoylake.

E. Peplus, Linn.

Petty Spurge.

A weed in gardens, cultivated ground, and waste places. *A.* July to October. Native. Generally distributed. Personal records in 2, 3; second-hand records in 1, 2, 4, 5, 6, 7.

E. exigua, Linn.

Dwarf Spurge.

A weed in cultivated fields and on light soil wastes. *A.* July to October. Not native. Thinly but equally distributed.

1. Cornfields near the left bank of the Goyt in Marple Vale; *Buxt. G. and Gr. Flo.*
2. Cornfields between Baguley Moor and Cotterill Clough; Near Sale; *Wootl. Flo.* Ashley; *Hunt, sp.* Rather local, but nearly always to be found among the crops in the fields between Lennards Farm and the Waterless Brook.

4. The three Floras state it to be common or frequent in dry barren fields and by roadsides, and do not give any localities. I can only call to mind one Wirral permanent station, namely, the Dee banks between Heswell Point and Gayton Cottage: I have met with it in other places without doubt, but this I know, I have always been pleased to come across it; *Webb*. North of Parkgate.
5. [Horton; *A. H. Wolley Dod*.]
7. About 300 yards after Peover Back Lane crosses Peover Brook in a field of Mr. Judson's farm. Very plentiful here in 1865.

E. lathyris, *Linn.**Caper Spurge.*

Alien. Native of Southern Europe, &c. Cultivated in cottage gardens, and occurs as a weed in their vicinity.

Said by Mr. J. F. Robinson to be "completely naturalised at Frodsham;"

E. C. Rep. 1867. A weed in cultivated land, Frodsham; (*Robinson*), *Flo. Liv.*

Does Mr. Robinson mean a garden, or has he ever seen it in a field? It will overrun a garden, *e.g.* Tabley kitchen-garden, very speedily.

MERCURIALIS, *Linn.***M. perennis**, *Linn.**Perennial Mercury.*

Woods, wooded cloughs, thickets, shade and hedge banks, &c. *P.*

April to June. Native. Generally distributed. Personal records in 2, 3, 6, 7; second-hand records in 1, 2, 4, 5, 6, 7.

M. annua, *Linn.**Annual Mercury.*

Alien. Introduced with ships'-ballast.

Has occurred at the Birkenhead Docks from 1864 to 1871; *Flo. Liv.* Likely, years hence, to be as common round Birkenhead as round London and Brighton; it is one of the aliens "on its promotion."

CERATOPHYLLÆ.**CERATOPHYLLUM**, *Linn.***C. demersum**, *Linn.**Common Hornwort.*

In ponds and pits. *P.* June, July. Native. Distribution imperfectly ascertained.

2. In the Serpentine, Tabley Park: by a little plank and foot-bridge copiously; In the "Wang pits," nearer Knutsford and the Park wall; In two pits on and two fields to the S.E. of White House Farm, under the shade; Again in a pit in a field in which is a footpath next to Plumbley Lane, just before Williamson's Farm: these pits are nearly choked with the plant: I have only once got fruit, *e.g.* many years since from the first station, and being only a beginner, I kept only one specimen in fruit.
3. Helsby; (*Robinson*), *Flo. Liv.* Ditch, the Rake Lane, near Helsby Station.
5. Pit in fields between Waverton Windmill Quarry and Waverton village; *Brown*. In the Bache Pool, say a mile north of Chester on the Moston Road; The piece of water in the Meadow Plantation, Eaton Hall grounds; Little Heath pond, Christleton.

URTICACEÆ.

PARIETARIA, *Linn.***P. diffusa**, *Koch.**Pellitory-of-the-Wall.*

On old walls, banks made up of stone and earth, rocky wastes, and hedge-banks—generally near to habitations. *P.* July to September. Native or denizen. Sparsely dotted throughout, more frequent in the west. No hill record.

2. At Bowdon, growing under a large stone; *Wood, Flo.* Below Bowdon Old Church; *Gr. Flo.* (qy. same station?). Farm-house wall between Sale and Carrington Moss; Dirty pigstye walls about Mobberley; and under the yew hedge at Mobberley Old Hall; *Gr. Flo.* In the stackyard of Lennards Farm (Mr. Jackson's); also at Mr. Peter Jackson's farmyard near Toft; Near Acton Grange.
3. On an old wall at the corner of the lane leading to Whitegate, west of Hartford Station; *Brown.* By the Railway Inn, Helsby Station; Between Frodsham Station and Overton Church; Little Budworth, sparingly.
4. On the wall of Bidston Churchyard; *Hall, Flo.* Birkenhead Abbey walls; (*A. Stewart*), *Ib.* Bromborough; (*H. Chapman*); *Flo. Liv.* Wall at Prenton Hall; (*Fisher and Marrat*), *App. Flo. Liv.* The walls, &c., of West Kirby Church, and here and there towards Grange; (*Miss C. Grundy*), *Ib.* Garden wall in Willaston village going to Hadlow-road station; Hedge-bank by the roadside opposite to the buildings of Leighton Hall Farm; In quantity about the stone-built hedge-cops for some distance along "Sycamore Lane;" *Webb.* Bidston Churchyard wall; The hedge-bank within a dozen yards of the exit upon the lane of the lane from Neston, about half a mile south of Parkgate.
5. Walls, &c., between Carden and Carden Green; *Webb.* A plant observed on the Chester town walls nearly opposite the Cathedral; Christleton; Saughton. [Stretton; Carden Green; *A. H. Wolley Dod.*]

URTICA, *Linn.***U. dioica**, *Linn.**Great Nettle.*

Hedge-bottoms, by roadsides, on waste ground, in plantations, woods, &c. *P.* May to October (two sets of flowering). Ascends to 1750 feet. Native. Generally distributed. Personal records in 1, 2, 3, 4, 6, 7; second-hand records in 1, 2, 3, 4, 5, 6, 7.

A plant answering to Babington's variety *angustifolia* grows with the type by the roadside before entering Whaley Bridge from Furness; *Webb, sp.* [It is also reported from a wood at Eastham; (*J. A. Wheldon*), *E. C. Rep.* 1894.]

U. urens, Linn.*Small Nettle.*

In garden ground, and about farmyards and roadsides, and wastes near dwellings, becoming in light sandy districts an agricultural weed. *A.* June to October. Native or Colonist. Fairly general distribution. Personal records in 1, 2, 3, 4, 6, 7; second-hand records in 1, 2, 4, 5, 6.

1. Gardens and farm outskirts about Newtown New Mills, but not common through the Hundred; *Webb*. Disley; &c.
2. No Cheshire localities given in the Manchester Floras. In several places about Mobberley, as at Mobberley Hall, where it is a garden weed; Also in Blackshaw's Lane at Shaw Heath, Knutsford: I never saw it very far from buildings; *Holland*. Waste places, Bowdon; *Hunt, sp.* Much the rarer nettle in my home district: it generally grows close to farmyards or on dunghoops there, while the other extends into woods, &c.: About Knutsford Cross; Tabley Lane and Farm, &c.; Hollin Hedge, near Acton Grange.
3. Weaverham; by the Railway Inn, Helsby Station; Little Budworth.
4. Seems quite the prevalent nettle, as about Hoylake; Wallasey; Moreton; it grows also in fields: this I have never seen in my home circuit. The Liverpool Floras confirm my own impressions as stated above.
5. Near Tattenhall; *Lewis*. Tattenhall Road Station.
6. In gardens at Audlem, where it is complained of as a common and troublesome weed; *Webb*. About Wrenbury it seems common.
7. About farmyards in Lower Peover, but not very common.

HUMULUS, Linn.**H. Lupulus, Linn.***Common Hop.*

In hedgerows, the bushy banks of streams, and the borders of woods and thickets. *P.* July, August. Denizen (but often a mere outcast). Thinly distributed throughout; most frequent in Middle Cheshire.

1. Frequent, Reddish Vale; *Buxt. G.* ed. ii. The only place where I saw it away from cottages was in the hedges on the left-hand side of the road between Dan Bank and Rose Hill Station; *Webb*.
2. Ashton-upon-Mersey; Rostherne; Lymm; *Gr. Flo.* Very abundant in many parts of Mobberley, as in Bleakley Lane; In the fields at Bollin House, where in some seasons I have gathered the fruit in fine condition: local names infer that it was cultivated here at some period; *Holland*. The finest hops I have ever seen in Cheshire grow in the hedges near Millington Hall; *Id.* Ashley; *Hunt, sp.* All along the woods by the Waterless Brook from Flitto Gate Farm to Clay House Farm; Generally to be seen by the bridge over Waterless Brook on the Northwich road at Tabley; In many other places in Tabley woods and hedges; Copiously in a hedge leading to Holford Hall, &c.; In a hedge leading north to Kinsey's Farm, Tabley Hill.

3. I believe I have seen it near Weaverham in this Hundred.
 4. Eastham; *Hall, Flo.* Oxton; (*A. Stewart*), *Ib. Flo. Liv.* says, "Frequent, but introduced in all cases." Not common in Wirral, and generally about the hedges of cottage gardens: the best station I know is amongst bushes by the stream on the east side of Shotwick village; *Webb*. Some healthy plants in the lane shortly before reaching Hargrave Hall from Willaston; *Brown*.
 5. Seen several times near cottages from the boundary to Broxton; *Webb*. Hedges near Rushall Hall, near Tattenhall; *Id.* The S.E. corner of Eaton Hall grounds. [Near Aston Cross, Hampton; Simmond's Lane; Near the Grange Farm; *A. H. Wolley Dod.*]
 6. Seen several times in the hedges near cottages; *Webb*.
 7. Lower Peover, not uncommon, *e.g.* Simpson's Farm.
- Though widely diffused through the county, and occasionally in stations which in themselves suggest no suspicion, I do not believe in this as a Cheshire native.

ULMACEÆ.

ULMUS, *Linn.***U. suberosa, Ehrh.***Common Elm.*

In woods, hedgerows, plantations, &c. *T.* End of Winter and early Spring (before the leaves come out). Not native. Generally distributed. Personal records in 2, 7; second-hand records in 1, 2, 4, 5, 6.

This species sends up offshoots at considerable distances, and I can speak from personal knowledge of trees from twenty to thirty years old about Mobberley that have so originated; *Holland*.

U. montana, Sm.*Wych Elm.*

In woods and along the banks of rivers; also in plantations and hedgerows. *T.* Early Spring (before the leaves come out). Native in a fair percentage of stations. Thinly distributed; less frequent in the east and coastwards.

1. On the banks of the Tame in Reddish and Arden Vale, plentiful; *Buxt. G.* Marple; *Gr. Flo.* In Millbrook Great Wood (north of Staleybridge), in what I thought was a spontaneous state; *Baker, MSS.* Seen in many places, but in none where I considered it native; *Webb*.
2. Common in every wood: Ride Wood, &c.
4. Hedges and woods, common; *Dick. Flo.* Introduced probably in all instances; *Flo. Liv.*
5. [Rather uncommon, but general in the Malpas district; *A. H. Wolley Dod.*]

Mr. Watson has queried this in Mersey, but allows it in East Trent. I think we have quite as good a right to it, and I should hold the Wych Elm as "guardedly native" in a small percentage

of its Cheshire stations in the east. It is extremely prevalent in my home district. The brushwood, *e.g.* of the Ride Wood, Tabley, is composed entirely of young Wych Elms. Nothing is so puzzling as to decide the claim of a timber tree to nativity.

CUPULIFERÆ.

QUERCUS, Linn.

Q. Robur, Linn.

Common Oak.

Woods, wooded cloughs, hedgerows, &c. T. Spring (as the leaves are coming out). Native. Generally distributed. Personal records in 1, 2, 3, 6, 7; second-hand records in 1, 2, 3, 4, 5, 6, 7.

The stunted oaks of the higher grounds, as at Crowdon and above Lyme Cage, have an unmistakably native look, and Mr. Webb says such is the case also in various parts of the north and east of Hundred 1. Mr. Baker remarks that the Oak is by far the most abundant tree of the Staleybridge district, forming almost solely the woods in the Brushes ravine, which is nearly a mile long and 600 feet deep, the undergrowth being *Rubus Sprengei* and *pallidus*, *Galium saxatile*, Bilberry, *Rumex Acetosella*, *Pteris*, Ling, and *Aira flexuosa*.

Sub-sp. *sessiliflora*, Salisb.

1. Staley Brushes, plentiful; *Buxt. G.* Bredbury Wood; (*Sidbotham*), *Phyt.* vol. i. (1844), p. 331, where also mention is made of an intermediate form from Mottram. Where the road crosses Carrbrook Clough, near Micklehurst, Mr. Baker gathered specimens "like *sessiliflora* and *pedunculata* from the same tree." In the natural wood that borders the stream above the higher Stockport reservoir, now constructing (1874), about two-thirds of a mile south of Disley; In the fourth field from the entrance above the Powder-mills, following the cart-track to Knipe Farm, south of Taxal; On Widowhurst Farm, near Disley; *Webb, sp.*
2. Two trees by the Northwich roadside, on the left hand just after Tabley Grange; A tree in Tabley Lane a quarter of a mile south-east of Windmill Inn, Tabley. Probably not rare.
4. *Dick. Flo.* states that the varieties *sessiliflora* and *intermedia* are both common, whilst *Flo. Liv.* says, "We have not observed *intermedia* in the district," but gives the former as frequent. Opposite the end of Thornton Grange road, at Raby Pool.
5. A roadside tree near Stag Hall (on the Whitchurch road), half-way between Malpas and the county boundary; *Webb.*
7. Planted trees by the roadside between Mow Cop Station and the turn to the railway crossing half a mile "down" the line; In Rode Park, near Mow Cop; *Webb.*

FAGUS, Linn.**F. sylvatica, Linn.***Common Beech.*

In woods, plantations, and hedgerows. Frequently planted in parks.
T. Late Spring and early Summer. Native. Generally distributed.
 Personal records in 1, 2, 3, 6; second-hand records in 1, 2, 3, 4, 5, 6, 7.

Not improbably indigenous in Chester; *Cyb. Brit.* ii. p. 378.
 I cannot improve upon this statement of Mr. Watson.

CORYLUS, Linn.**C. Avellana, Linn.***Common Hazel.*

Woods, wooded cloughs, bushy banks, the sides of streams, and in hedgerows. *Sh.* Early Spring (before the leaves). Native. Generally distributed. Personal records in 1, 2, 3, 6, 7; second-hand records in 1, 2, 3, 4, 5, 6, 7.

Castanea vulgaris, Linn.*Sweet Chestnut.*

Planted.

Has been inserted in the four later Floras relating to Cheshire. Even as a planted tree it is anything but common in the county.

Carpinus Betulus, Linn.*Hornbeam.*

Introduced.

Inserted both in Liverpool and Manchester Floras, and given doubtfully as wild on the banks of the Goyt below Strines; *Gr. Flo.* It occurs here and there, but very sparsely, in Tabley Woods, showing no indications whatever of nativity, and I understand a Mr. Oldknow planted largely of various trees in the Goyt valley about Strines. I never saw it the factor of a Cheshire hedge, as it is so commonly of a Surrey one. Mr. Webb writes that he has no record or recollection of seeing it in Wirral at all. There are specimens in the Hunt Herbarium from Dunham Park, near Bowdon. It may be found (planted) near Raby Watermill (4), and in Hundred 5 in the wooded dingle near the Grosvenor Bridge, Chester; also in the wood at Gamon's Rough. [Captain Wolley Dod notes it as "not uncommon in hedges" in the (5) Malpas district.]

BETULACEÆ.

ALNUS, Tourn.**A. glutinosa, Linn.***Common Alder.*

River-banks, the borders of brooks and ponds, in boggy and swampy places, and in damp woods, cloughs, and hedgerows. *T.* Early Spring (before the leaves are fully out). Native. Generally distributed. Personal records in 1, 2, 3, 6, 7; second-hand records in 1, 2, 3, 4, 5, 6, 7.

Truly native: the "Owler" is the timber-weed of Cheshire.

A fine tree grows in the field adjoining the wood above Water-side House, near Disley; its trunk measures fully eighteen inches in diameter; *Webb.* It attains sixty feet in half-a-dozen instances in Tabley Park when this harmless tree escapes the woodman.

BETULA, Linn.**B. alba, Linn.***Common Birch.*

On the mosses and in moist wooded cloughs; also in woods, plantations, and hedgerows. *T.* Spring (before the leaves are fully out). Native. Generally distributed. Personal records in 2, 3, 4, 6, 7; second-hand records in 1, 2, 4, 5, 6, 7.

Mr. Holland observes that whenever a peat-bog is cleared away, quantities of birch seedlings come up. As far as I can make out, the plant of the heath and mere lands is *B. verrucosa*, and we have also *B. pubescens*.

Sub-sp. glutinosa, Fries.

1. Marked by Mr. Baker in a catalogue of Staleybridge plants. On Danes Moss, Macclesfield; *Webb*. Alderley; *Hunt, sp.*
2. Bowdon; *Hunt, sp. (B. pubescens, Ehrh.)*. Dunham road, Bowdon, and Dunham Park; *Hunt, sp.* On Tabley Hill in a hedge of Mr. Ashbrook's farm; and a small clump in a cover of Tabley Park where it is called the "ten acre." Both these belong to the variety *B. pubescens, Ehrh.*
4. In a lane between Gayton and Parkgate, nearer the first.
6. Wybunbury Moss; *Webb, sp.*
7. Several trees on Brereton Heath.

Sub-sp. verrucosa, Ehrh.

2. Bowdon; *Hunt, sp.* Very general in my home district: Tabley Hill and Ride Wood.
4. In a lane near Gayton, near *B. glutinosa, Fries.*; typical.
7. Peover Heath, &c.

MYRICACEÆ.

MYRICA, Linn.**M. Gale, Linn.***Sweet Gale.*

On the mosses and other boggy moory land. *Sh.* Spring (before the leaves are out). Native. In four or five isolated stations. Plain. Personal records in 2, 7; second-hand records in 1, 2, 3.

1. Entering Danes Moss from Macclesfield, and in several places upon the Moss; *Webb*.
2. Bog on the margin of Rostherne Mere, abundant; *Wood, Flo.* and *Buxt. G.* Stretton Moss; *Buxt. G. ed. ii.* In a boggy plantation N.W. corner of Rostherne Mere, which is even named "Gale Bog" on the Ordnance Map: an old and well-known station;¹ Much more plentifully on Arley Park Moss, near Crowley.

¹ *Gale frutex odoratus septentrionalium, Elæagnus cordo, &c.* Near Whitchurch, Cheshire, so plentifully, that the place where it grows is called Gale-Moor; (*Mr. Vernon*), *Blackst. Spec.* p. 25.

3. Hatchmere; *Melville*.

7. I saw a plant on Rudheath in what is called Gall's plantation, but I do not think it was native where I saw it, though it had probably been brought from a native station somewhere on the heath.

SALICINÆ.

POPULUS, Linn.

P. tremula, Linn.

Aspen Poplar.

On and near the mosses, on pit- and stream-sides, and in damp woods and hedgerows. *T.* Spring (before the leaves are out). Native. Thinly distributed throughout.

1. Staleybridge Brushes; Cheadle; *Gr. Flo.* Spontaneous in the clough above Hollingworth; *Baker.* Alderley; *Hunt, sp.*

2. Woods beyond Ashley; *Hunt, sp.* Near Butts Clough; *Hunt* (Hundred uncertain). The wide straggling hedge along Pavement Lane, Mobberley, leading to Spring Wood, is almost composed of *P. tremula*, which has been stunted by cutting and laying, and does not make trees; *Holland.* Two trees by a pit where the lane leaves the Northwich road at Marston; Again in Pease Wood, near the last station; Again a few trees in hedges about Pickmere Mere; In the park hedge, Black Hill Farm, in Sudlow Lane.

3. West bank of Oakmere; Old hedges of lane between Beeston Moss and Hey Croft.

4. Moist woods, not uncommon, but scarcely indigenous; *Dick. Flo.* Blacon Point.

6. Wybunbury Moss: wild, I should think; *Webb.*

7. On Brereton Heath.
Native certainly.

P. alba, Linn.

White Poplar.

Introduced. Records from 1, 2, 4 [5].

No claim to Cheshire nativity.

P. canescens, Sm.

Grey Poplar.

Introduced.

Mentioned in *Flo. Liv.*, and entered in *Buxt. G.* and *Gr. Flo.* The latter states that it occurs in most directions out of Manchester, but speaks of it as introduced, which, of course, is the case. Chester Road, Bowdon; *Hunt, sp.* Between Bromborough Station and Bleaky Brow Lane: evidently planted; Near the butts on the Blacon Point shooting-range.

P. nigra, Linn.

Black Poplar.

Introduced. Records from 1, 2, 3, 4, 7. Always planted.

SALIX, Linn.***S. pentandra, Linn.****Bay-leaved Willow.*

In damp woods and wooded cloughs, on the banks and in the water of streams and ponds, and in hedgerows. *Sh.* (or *T.*) May, June. Native. Frequent in the north-west; local in the plain; rare in the east and coast district.

1. Woods above Staley Hall and Common; (*Mr. Bradbury*), *B. G.* Big Wood, near Staley Hall; By the canal-side between Hatherlow and Marple Aqueduct; *Buxt. G.* Between Bramhall and Poynton; *Gr. Flo.* The only female plant I know, or indeed ever saw, grows on Kerridge Hill; *Holland.* Wood bordering the stream between the Macclesfield Canal and Windlehurst Fold, on the road from Marple to High Lane: wild; Forms forty yards of the roadside hedge below the Wesleyan Chapel at Higher Disley, mixed with *S. Caprea* and *S. fragilis*; In other places around Disley, but suspiciously located or in small quantity; *Webb.* In a hedge near the Toll-gate between Bosley and Macclesfield; *Id.* In the brooklet which divides the Hundreds close to Burley Hurst Wood at its Lindow end; By a cottage near Woodhead: not wild.
2. Fringing Mobberley Mill-dam and the brook that feeds it; Found here and there along most of the brooks of Mobberley: all are male plants, flowering very freely; *Holland.* Local: The edge of Tabley Lake at its point nearest White House Farm, a large tree, but growing half under water; In a pit on Tabley Grange land (an old nursery ground); In a pit by the roadside near Four Lane End, Plumbly; In the hedge near the pound on Knutsford Racecourse; Between Knutsford and Chelford; Between Ashley Station and Cotterill, opposite a farm.
3. Hedges about Beeston Moss and the neighbouring lane.
4. New Brighton; (*W. Skellon*), *Flo. Liv.* In the left hedge of the second field between Hoylake Station and the Hill Houses; *Webb.* [Near West Kirby; *A. H. Wolley Dod.*]
5. Edge of a pit by the roadside between Malpas and the new cemetery; *Webb.*
6. A single bush in hedge by the roadside, a little beyond the point where the lane from Wheel Green Farm joins the main road south of Doddington; *Webb.* Margin of a pit at Swanwick Green; *Brown, sp.* [Wybunbury bog; *A. H. Wolley Dod.*]

I believe this Willow to be indigenous on the higher grounds, and the frequency of its occurrence there, under circumstances of no suspicion, makes me lean more favourably towards accepting it as a native in the rest of Cheshire. The fact is, its showy, shrubby-like appearance prejudices one, perhaps unfairly, against it. Certainly its grade of nativity is at any rate higher in the plain than that of *S. viminalis*.

S. fragilis, Linn.*Crack Willow.*

Banks of rivers, in moist meadows by stream-sides, by pond-sides, and in damp woods and hedgerows. *T.* May. Native?. Generally distributed. Personal records in 1, 2, 3, 4, 6, 7; second-hand records in 1, 2, 4, 5, 6, 7.

I have never seen a male tree in my home circuit.

It is very difficult in the case of this species, and in that of other *useful* Willows, to decide *pro* or *con* the question of nativity. This is certainly planted in the great majority of stations, but *qy.* is there any residuum of native habitats?

S. viridis, Fries.

Planted.

2. A tree in Tabley Upper Willow Bed, 1865.

Var. *β. Russelliana, Sm.*

5. Dee-side, the Meadow Plantation, Eaton Hall grounds.

S. alba, Linn.*White Willow.*

Along streams, in moist woods, and in damp hedgerows. *T.* May. Native?. Locally diffused throughout?. Nowhere frequent?.

1. Reddish Vale, abundant; *Sidebotham, MSS.* In Millbrook Great Wood, north of Staleybridge, &c.; *Baker.* Gatley Carrs.
2. About Bowdon and Dunham, and on the road to Rostherne Mere: common; *Wood, Flo.* Cotterill Wood; *Buxt. G.* On the banks of the River Bollin, between Bowdon and Rostherne; *Gr. Flo.* and *Wood, Flo.* Banks of the Mersey near Sale; *Buxt. G.* Ditto at Lymm; *Gr. Flo.* Bowdon; and River Bollin banks near Castle Mills; *Hunt, sp.* Local in my home circuit: there are a few trees by the Waterless Brook, near Clay House Farm.
3. Near Hapsford Hall, Helsby.
4. Not mentioned in *Hall, Flo.*: the two later Floras say "frequent," and do not give any stations. Raby Watermill.
5. By the main trench, the Lache Eyes, Chester. [Rare: Castletown; Horton Green; By both mill-ponds at Edge; *A. H. Wolley Dod.*]

I have but little experience of this Willow in Cheshire: it is certainly much less common in the county than *S. fragilis*, and it is also certainly rarer than in the South of England. I have, speaking of England generally, an idea that it is a better native than *fragilis*.

Var. *β. vitellina, Linn.*

5. Left bank of the Dee below Grosvenor Bridge, Chester.

S. undulata, Ehrh.

Cultivated, not indigenous.

1. Ditch at beginning of the footpath alongside the railway from Northenden to Gatley; The osier bed at the higher level of Gatley Carrs.
2. Cottage garden hedge by the canal at Moss Side, Halton Moss, Moore; Mersey banks, where the railway crosses to Warrington.

S. triandra, Linn.*Almond-leaved Willow.*

By brooks and ponds and in moist woods. *T.* May, June, and on to August. *Alien.* Two records. Information imperfect; probably rare.

1. Pit-side near Marple Aqueduct; In a wood near the mouth of the tunnel, in that neighbourhood; *Buxt. G.*
2. A bush by Peover Eye Brook, where Bagguley Cardwell's fields touch it: the only one I have noticed in Cheshire: it is the *var. amygdalina*.

Rare, and probably not native, though taken by itself the Peover Eye bush is not suspicious. In *Buxt. G.* the neighbourhood of Marple Aqueduct is given as a locality for this Willow, but the country thereabouts is now so altered that the stations it names are obliterated.

S. purpurea, Linn.*Purple Willow.*

On stream banks, in dampish woods, and on marshy ground. *T.* April, May. *Alien?* Planted?. Dotted very locally throughout?

1. Wood on the left side of the road half-way between Stockport and Marple, sparingly; Wood near Marple Aqueduct, on the left bank of the Goyt; Margin of a pond by the side of the canal near Marple Aqueduct; *Buxt. G.*
2. By the small brook which flows through Tabley Lower Willow Bed: flowers beautifully every year.
3. On the margin of Oakmere, south side, a bush or two.
4. Near Sutton; Eastham; *Dick. Flo.* "West Kirby," added in *Flo. Liv.*, but the original record in *Dick. Flo.* stands "Kirby." (*Qy.* Is the latter in Cheshire?) To the left where the road through Wallasey enters upon the sandhills: no doubt planted as a garden protection; *Webb*.

A very doubtful native in Cheshire.

Var. Helix, L.

1. Neighbourhood of Marple Aqueduct; *Buxt. G.* (*vide* remark under *S. triandra*).

S. viminalis, Linn.*Osier Willow.*

By the sides of rivers and streams, in damp hedgerows and in osier grounds. *Sh.* Spring. Native in Cheshire?. Rather generally distributed. Personal records in 1, 2, 3, 6, 7; second-hand records in 1, 2, 4, [5], 6.

Is cultivated in so many places that it is next to impossible to decide upon the question of its original nativity.

S. Smithiana, Willd.*Smith's Willow.*

By river-sides and streams, in moist woods and hedgerows, and in osier grounds. *Sh.* or *T.* Spring. Native. Probably has a fairly general distribution.

1. Banks of the Mersey between Northen and Stretford; *Buxt. G.* Marked in a catalogue by *Mr. Baker*, and entered in the list by *Mr. Webb*, but localities not recorded. Near Northenden.

2. *Ashley*; *Hunt*, *sp.* Not uncommon, and frequently becoming small trees: there are some in nearly every cover, where the woodmen always treat them as rubbish: *e.g.* Tabley Lower Willow Bed; In the Pinfold Nursery; In the Rinks; At Pickmere, between its mere and Budworth Mere, I observed that one of the large osier beds was fringed at one place by the trench side of the outermost trench with *S. Smithiana*; Moss Lane, near Moore.
3. Near Horn's Mill, Alvanley; Near Hapsford Hall; The Marsh Lane, Ince; By the Gowy, below Plemstall.
4. Only one, and that a Lancashire locality, mentioned in the Liverpool Floras. I consider this a much more frequent plant in Wirral than *S. Caprea*; *e.g.* In hedges along the Upton road, Birkenhead; About Raby, &c.; *Webb*. Near Parkgate; Little Soughall, S.E.; Near Blacon Point; Raby Watermill.
5. By bridge over the stream on the road from Bickley School to Bickley Hall; *Webb*. Hedges by the roadside in several places between Chester and Blacon Point; *Id.* Meadow House, near Chester. [Rather common, but often planted in Willow plantations, as in Edge Wood; *A. H. Wolley Dod.*]
6. A short distance out of Wirswall, on the road to Marbury; Seen also several times in the Audlem neighbourhood; *Webb*.
7. The road up from Mow Cop Station to Congleton Edge, on the right-hand side past the Railway Inn; *Webb*, *sp.* Lower Peover Brook-side, &c.; About two miles north of Congleton, on the Holmes Chapel road.

Var. ferruginea, *G. Anders.*

5. A single tree by the Dee, north of Heron Bridge, Chester.

***S. cinerea*, Linn.**

Sallow Willow.

Around pits and by stream-sides, &c.; in moist woods, cloughs, and hedgerows, and about the edges and wastes of rough fields and pastures. *Sh.* or *T.* Spring. Native. Generally distributed. Personal records in 1, 2, 4, 7; second-hand records in 1, 2, 3, 4, 5, 6, 7.

When we reach this group of ugly and useless "withies," we feel sure we have got to genuine natives.

In *Smith, Eng. Fl.* reference is made to "a very curious specimen (of *S. cinerea*) gathered at Dukinfield, near Stockport, Cheshire, by Mr. Robert Gee," bearing, "a monœcious catkin, the lower half of which consists of perfect germens with their styles and stigmas; the upper of a few misshapen bodies, with apparently perfect stamens at the top."

The peculiarity is not of uncommon occurrence in Cheshire amongst this group of Willows, *e.g.* *S. aurita*, in the bed of Gilbrook, behind Claughton village (*Webb*), and with rods, some bearing male and some female flowers from the same stoop of *S. cinerea*, in the wood called Pinfold Nursery at Tabley.

I give below a few notes of the distribution of the three Smithian species, now reduced to varieties of this plant, and varieties so running into each other "that it is often impossible to say to which of the three a form ought to be referred."

Var. α. genuina, Syme (*S. cinerea*, Sm.).

1. Dukinfield; *Smith, Eng. Fl.*
2. Common; *Buxt. G.* Steep pit near Vicarage, Bowdon; *Hunt, sp.*

Var. β. aquatica, Syme (*S. aquatica*, Sm.).

2. Common; *Buxt. G.* In a damp wood beyond Ashley by Bollin Banks; *Hunt, sp.* (Specimen named by Mr. Baker.)

Var. γ. oleifolia, Syme (*S. oleifolia*, Sm.).

2. Frequent; *Buxt. G.*

S. aurita, Linn.

Wrinkled-leaved Willow.

Moist cloughs, woods, and thickets, damp bushy banks and wastes, hedgerows, and on wet parts of heaths. *Sh.* Spring. Native. Rather generally distributed. Personal records in 2, 7; second-hand records in 1, 2, 4, 5, 6, 7.

Local in my home circuit; but it would appear to be generally, and in some parts commonly, distributed through the county.

S. Caprea, Linn.

Great-Sallow Willow.

The wooded banks of rivers and meres, damp hedgerows, and in thickets and woods. *Sh.* or *T.* Spring. Native. Generally distributed. Personal records in 1, 2, 6, 7; second-hand records in 1, 2, 4, 5, 6, 7.

Even this common Willow is unequally distributed in my home circuit. It is very prevalent on the north side of Pickmere, but nearer Tabley there are three trees of *S. cinerea* to one of *S. Caprea*.

The woodmen about me speak of *S. Caprea* as "white withy," *S. cinerea* (inclusive) as "black withy." One of these woodmen, when shown by me a bush of *S. aurita*, referred it, after some hesitation, to "black withy;" and when shown *S. Smithiana* he was quite at a loss, but said it was not an Osier.

S. phylicifolia, Linn.

Requires confirmation.

"Cheshire;" *Comp. Cyb. Brit.* p. 316. Republished in *Topog. Bot.* p. 360, on my personal authority. Corrected at p. 657, with the explanation that it "was taken from Mr. Warren's Manuscript Flora improperly, through not understanding a pencil note therein." I have a MS. memorandum from J. G. Baker, stating that Dugdale had sent him a specimen from the vicinity of Accrington (Lancs.); *Watson*, 1875.

S. repens, Linn.

Creeping Willow.

The sandhills; on heaths or sandy heathy ground; and on or near the mosses. *Sh.* April to June. Native. Thinly distributed through the inland and hills. Common on the coast.

1. In several places by the side of the road from Goyts Bridge to Knipe Farm; *Webb, sp.*

2. Remains of Baguley Moor and roadsides adjacent; Remains of Sale Moor; *Buxt. G.* Not very common: about the roadside where the railroad crosses the lane to Trout Hall, sparingly; Hale Moss (*S. argentea*).
3. Margin of Oakmere: apparently several forms of it; Hatchmere; Fish Pool, Delamere; A junction road one mile S.E. of Alvanley (*S. argentea*).
4. The coast sandhills; *Flo. Liv. &c.* Oxton Heath; (*Lewis*), *Flo. Liv.* Covers the sandhills in many places: New Brighton; Wallasey; Hoylake; Less frequent about Parkgate; Blaen Point shooting-range.
6. Wybunbury Moss; *Garner, N. H. Staff.* Ditto; *Frazer, sp.* (A fine range of specimens, all referred to *S. fusca*, i.e. ordinary *repens*, by Mr. Baker, to whom they were submitted.)
7. Peover Heath Covert, both on the green by the ponds and the other side of it inside; Also in a little rough place on the road soon after Peover Cover; It is common at Rudheath, e.g. by the "Three Greyhounds;" Plentiful in a very rough lane near Withington Hall (near Chelford).

A very frequent littoral plant, and not uncommon on Cheshire mosses. The bulk of the sandhill plant is *var. ζ. argentea*: that of the heaths *var. α. genuina*, and that of the mosses *var. β. fusca*. Some other *vars.* are named in the Liverpool Floras, but these require confirmation.

[The occurrence of the following hybrids has been noticed by Captain A. H. Wolley Dod:—

S. fragilis × *pentandra*.

6. Wybunbury Bog.

S. aurita × *cinerea*.

5. Edge Green.

S. viminalis × *cinerea*.

5. Lane near Gallantry Bank.

S. purpurea × *viminalis*.

5. Plantation at Grafton Hall.]

MONOCOTYLEDONES.

TYPHACEÆ.

TYPHA, Linn.

T. latifolia, Linn.

Great Clubrush.

Around meres and pools; in pits, ponds, and swamps, and the edge of damp woods bordering mosslands. *P. July.* Native. Generally distributed. Personal records in 2, 3, 4, 5, 7; second-hand records in 1, 2, 4, 5, 6.

This is the plant surrounding the Marbury Meres, apparently to the exclusion of *T. angustifolia*. The greatest mass of it I ever

saw in Cheshire was covering an extensive mud-tract alongside the River Goyt, above Otterspool Bridge, east of Stockport; *Webb*.

In my home district occurs in smaller masses than its congener: in the two stations where they grow together, *latifolia* retreats to the central and deeper water.

***T. angustifolia*, Linn.**

Lesser Clubrush.

Around meres and pools and in pits and ponds. *P.* July. Native. Generally diffused in the plain. Rarer coastwards and in the west. No hill record.

2. Rostherne Mere; Mere Mere; *Wood, Flo.* and *Hunt* (the latter Rostherne only). Ponds by the roadsides near Hale Barn, plentiful; *Buxt. G.* Pit in field on the left-hand side of the road between Mobberley and Shaw Heath; (*Rogers*), *Phyt. N.S.* vi. p. 249. Morley Common; *Warr. List.* Fringes all the meres of any magnitude: *e.g.* Pickmere; Budworth Mere; Tabley Lake, &c.: in Tabley Lake there is hardly any *T. latifolia*, though it is fringed for long breadths with very deep beds of *T. angustifolia*. *T. latifolia* here retreats to the smaller pits and is certainly less general. Just above the Serpentine Bridge, Tabley Park, the two kinds grow plentifully together.
3. Dam-pool at Bradford Mill, 1½ miles north of Over; (*Anon.*), *Phyt. N.S.* iii. p. 248. Near Thornton-in-the-Moors; Pit near Hapsford Hall Farm, Helsby.
4. *Hall, Flo.* says "common," and *Dick. Flo.* and *Flo. Liv.* "frequent;" no stations given. In a pond by the footpath about half-way between New Ferry to Parkgate; (*Mr. Bradbury*), *B. G.* Pit by the pathway from Parkgate to Moorside, in company with *T. latifolia*; A field-pit beyond New Hall, near to the footpath from Parkgate to Brimstage: these are the only two localities I remember in Wirral; *Webb*. In a pit between Little Sutton and Overpool, before reaching the stream; *Brown*.
5. Pit in Salter's Lane between the Fox Covert and near Mickle Trafford; *Brown*. The borders of Bar Mere near Bickley; *Id.* Saughton, west; Waverton, south; Pit near Plemstall.
6. Wybunbury Moss; *Webb*.

SPARGANIUM, Linn.

***S. ramosum*, Huds.**

Branched Bur-reed.

On the margin and in the shallow water of pits and ponds, in wide ditches, and along the edges of canals and streams. *P.* July, August. Native. Generally distributed. Personal records in 2, 7; second-hand records in 1, 2, 3, 4, 5, 6, 7.

[*Var. microcarpum*, Neuman.

3. Pit on the edge of Delamere Forest, near Mouldsworth; (*Bailey*), *E. C. Rep.* 1890. Duckington; Peckforton Mere; *A. H. Wolley Dod.*]

S. simplex, Huds.*Unbranched Bur-reed.*

Around ponds and pits and in the shallow water of same, also in ditches. *P.* July to September. Native. Rather generally distributed. Personal records in 1, 2, 7; second-hand records in 1, 2, 4, 5, 6.

Rather less common than the preceding.

S. minimum, Fries.*Smallest Bur-reed.*

In pits and ponds. *P.* June to August. Native. In seven or eight stations dotted sparsely throughout. No hill record.

2. Seaman's Moss pits is one of the two places where I have seen it in flower; *Burt. G.* Not uncommon in a flowerless condition; *Ib.* and *Gr. Flo.*
3. Hatchmere; *Melvill.* Ditto; (*Robinson, sp.*), *Hunt, Hb.*
4. Near New Ferry; In a pond on the right-hand side of the road leading from Rock Ferry; *Hall, Flo.* Ditto; *Dick. Flo.* and *sp. in Herb. Dick.* dated 1855; A pit on Woodhead Farm, Lower Bebbington; *Dick. Flo.* In a field-pit between Limbo Lane and the east side of Thurstaston Hall; (*Webb*), *App. Flo. Liv.* Pit in field between Little Sutton and Overpool, just before reaching the stream; *Brown.*
5. [Pond by Lowercross Gorse; *A. H. Wolley Dod.*]
6. Wybunbury Bog, 1874 [and 1881]; *Fraser, sp.*
7. This flowered plentifully in a pit on the edge of Rudheath by the roadside, 250 yards, say, north of the "Three Greyhounds," near *Utricularia minor*, in 1866 and succeeding years. I have not seen it elsewhere in England.

AROIDÆ.

ACORUS, Linn.**A. Calamus, Linn.***Sweet Acorus.*

In the mud of the shallow water of ponds and pits, and along the margin of canals. *P.* June to July. Denizen. Curiously and very unequally distributed. North central plain. Forest and shore.

2. Holford near Northwich, plentifully; *Blackstone*.¹ Hale Moss: in the ponds at the farther side it blossoms abundantly every season; *Burt. G.* and *Gr. Flo.* Plentiful at High Legh; *Gr. Flo.* Hale Moss, 1860; *Hunt, sp.* (Still there,

¹ *Acorus verus, sive Calamus Officinarum, Park* 140, &c. At Holford near Northwich, Cheshire, plentifully.

Acorus verus Julis ternis, vel quaternis alternatim, in caule positus. Sent to Dr. Richardson, of North Bierley, from Holford, Cheshire. Prioris elegans varietas. *Blackst. Spec.* (1746), p. 1.

The above was probably communicated to Blackstone by Dr. Richardson and the Acorus received by him from Dr. Sherard, who obtained it from Sir F. Leicester: thus we read in Sherard's letter to Dr. R. of November 12, 1720, "I forgot to put into the box the specimen I had from Sir F. Leicester for the *Calamus aromaticus*," and a subsequent letter in the "Richardson

1873; *Melville*.) In the fish-pond N.E. of Holford Hall, copiously; Again in a pit to the west of this one, where it flowered plentifully in 1866 and succeeding years; Also in another pit across the brook between it and Trout Hall; Probably in other places hereabouts.

3. Hatchmere; *Melville*.
4. Plentiful at Ellesmere Port; (*Mr. Bennett*), *Proc. Liv. L. and P. Soc.* xv. (1861), p. 13: the name of *Mr. Sansom* is connected with this locality in *Flo. Liv.* Fringing the Dee and Mersey Canal very conspicuously a few yards east of Moston Bridge, and continuing at intervals thence.
5. In the River Dee, but rare; (*Holme*), *B. G.* On the west bank of the Dee and Mersey Canal between Caughall and Werrin, which portion appears to belong to this Hundred; *Webb*. [Planted in Edge Park; *A. H. Wolley Dod*.]

ARUM, Linn.

A. maculatum, Linn.

Common Arum.

In woods and thickets, under field-hedges, and on deep shady hedge- and ditch-banks. *P. May*. Native. Thin but equal distribution.

1. Reddish Vale; Woods about Marple; *Bux. G.* Large wood by the roadside between Dan Bank Toll-gate and Rose Hill railway station; *Webb*.
2. Cotterill Wood, abundant; *Bux. G.* Plentiful in Newbridge Hollow between Bowdon and Rostherne; About Lymm, especially towards Thelwall; *Ashley*; *Gr. Flo.* The Dingle, Appleton; *Warr. List.* Bowdon; *Hunt, sp.* Common: Garden Wood, Tabley; Wood near Old Hall, &c.
4. On the right-hand side of the road leading from Woodchurch; *Hall, Flo.* Upton; *Dick, Flo.* "Frequent" according to *Flo. Liv.* Shady hedge-bank nearing Woodchurch from Noctorum: a rare plant in Wirral according to my experience; *Webb*. Near Prenton; *Brown*. Prenton Wood; (*Fisher and Marrat*), *Proc. Liv. L. and P. Soc.* xv. p. 13.
5. Hedge-bottoms in fields north of Chester: I think in this Hundred; *Webb*.
6. Seen in the Audlem neighbourhood; *Webb*. Under hedges between Crewe and Nantwich; *Lewis*.
7. Peover Brook-side.

Correspondence" (Letter lxxi.) mentions that it had been forwarded. And again in Letter lxxi. May 12, 1722, we find, "I believe Sir Francis Leicester will be all the summer in the country, and beg of you to write for a specimen of *Calamus*." The *Acorus* had, however, been long known as growing in Cheshire, being mentioned by Ray as far back as his *Cat. Plant. Angliæ* (1670), on the authority of a Dr. Walter Needham.

The old Herbal has a record as follows:—"In the moat at Holford Hall it grows plentifully, also at Over Tabley, both these places lying betwixt Knutsford and Northwich in Cheshire."

L E M N A C E Æ.

LEMNA, Linn.

L. trisulca, Linn.*Ivy-leaved Duckweed.*

In deep, clear, rather shady pits, ponds, and ditches, and occasionally under other circumstances with *L. minor*, but an inch or two below the surface. *P.* Native. Generally distributed. Personal records in 2, 4, 7; second-hand records in 1, 2, 3, 4, 5, 6, 7.

L. minor, Linn.*Lesser Duckweed.*

In pits, ponds, and ditches, and on stagnant water generally. *P.* May, June. Native. Generally distributed. Personal records in 2, 3, 4, 6, 7; second-hand records in 1, 2, 3, 4, 5, 6, 7.

I have never seen it in flower myself, but have filled in the above months from Mr. Webb's personal observations in the Liverpool district.

L. gibba, Linn.*Gibbous Duckweed.*

In pits. *P.* Not yet observed in flower with us. Low grounds. Native on the coast; brought by canal traffic inland?

2. Seaman's Moss pits, 1862; *Hunt, sp., Buxt. G. and Gr. Flo.* Pit at south end of Rose Wood, near Moore; Ditches, Moss Lane, Moore.
3. Ditch in the Rake Lane, near Helsby Station; Ditches on Hapsford Moor; Ditches on Frodsham Marsh; Field pit between Peek Mill and Dunham-on-the-Hill; Near Tarvin; The Marsh Lane ditches, Ince.
4. *Hall, Flo.* does not mention it: *Dick. Flo.* says "occasional," and *Flo. Liv.* "Ponds, ditches, &c. Frequent:" but no locality is given in any of the above. In two pits a little south of Parkgate; Watercourses, &c., Blacon Point.
5. Old brick pit between Dodeleston and Gorstella; Bache Pool; Pits, Rake Side, Saughton; Little Heath pond, Christleton; The Lache Eyes.

L. polyrrhiza, Linn.*Greater Duckweed.*

In pools and pits, occasionally in the backwaters of meres, and the trenches that flow out of them. *P.* Native. Fairly distributed throughout.

1. Pit near Mill Bank, Poynton, abundant; (*W. H. Heyes*), *Gr. Flo.* Styal; *Ib.*
2. In a pit near Timperley Bridge, Duke of Bridgewater's Canal; *Buxt. G.* Seaman's Moss pits: abundant there and in the canal not far off; Bowdon; *Gr. Flo.* Bowdon; *Hunt, sp.* Rather local, but plentiful in the trench which unites Pickmere with Budworth Mere, and sparingly in Budworth Mere. In a pit on Tabley Hill directly below Mr. Steel's farmhouse, under a steepish brow; Again in a pit by the lane-side about 300 yards short of Plumbley Four Lane End.

4. Seacombe; (*Lewis*), *Flo. Liv.* In a rather large pit on the right-hand side of the road about half-way between Bidston and Moreton; In two pits south of Parkgate towards Moorside; *Webb.* In a pit not sixty yards from the coast-line, say a mile north of Parkgate; In the *Hydrocharis* pool at Moston Bridge.
5. Pit in a field between the railway station and Waverton; *Brown.* In a pit by the roadside at Blacon Point; *Webb.* In the Bache Pool, about a mile north of Chester. [Edge Park; Edge Green; Pond below Overton Scar; Near Aston Cross; *A. H. Wolley Dod.*]
7. In a little pit by the lane-side due south of Trout Hall, near where *Calamintha Clinopodium* grows: just within this Hundred.

NAIADACEÆ.

POTAMOGETON, *Linn.*

P. natans, *Linn.*

Common Pondweed.

In meres, ponds, pits, canals, trenches, and slow streams. *P.* June, July. Native. Generally distributed. Personal records in 1, 2, 4, 7; second-hand records in 1, 2, 4, 5, 6.

P. polygonifolius, *Pourr.*

Moss-land Pondweed.

In ditches and watery hollows on the mosses and on heath-lands. *P.* July. Ascends to 800 feet. Native. Fairly general throughout.

1. Lindow Common; *Buxt. G.* Swampy wood at the head of the north branch of the stream that, after flowing a mile, passes through Furness Vale ("Furnace" of the Ordnance Map); Ditch at the S.W. border of Danes Moss, near Macclesfield; *Webb.* Woodhead, near the reservoir; Lindow Common, west side.
2. Hale Moss; *Buxt. G.* and *Hunt, sp.* About Dunham; *Gr. Flo.* Baguley Moor; *Sidebotham, MSS.* Knutsford Moor, plentiful; In a trench on Tabley Hill, in the field next to Tabley Lane, half a mile out of Knutsford.
3. Oakmere; North swamp at Hatchmere; Some of the swamps on Newchurch Common.
4. Not mentioned in *Hall, Flo.* or *Dick. Flo.* Margin of a pit on Oxtou Heath: will probably prove common; (*Webb*), *Proc. Liv. L. and P. Soc.* xv. (1861), p. 13. By the sides of the ditches in the Lang Fields, West Kirby; (*Id.*), *App. Flo. Liv.*
6. Pit between the canal and Shrewbridge, near Nantwich; *Brown.* Wybunbury Moss; Blackwater Moss; *Webb.*
7. Rudheath, in several places; Lower Peover Heath, in a plash in the wood.

No doubt very common where the ground is peaty and water collects into shallow pools, and in the trenches by which mosses are drained.

P. rufescens, Schrad.*Reddish Pondweed.*

In pits and broad ditches. *P.* July. Ascends to 300 feet. Native.
Fairly general probably throughout.

1. Pit in second field on the left-hand side south of the junction of the road from Poynton with that from Hazel Grove to Woodford, after crossing the Manchester and Macclesfield railway; In a small pit near the road between the above and Woodford village; Pit in field north of Woodford New Hall: in each instance without floating leaves; *Webb, sp.*
2. Pits on Hale Moss; *Bux. G.* and *Hunt, sp.* Altrincham; *Gr. Flo.* Good typical specimens in the most westerly of the pits at the Marston Tile-yard: it grows only in that one, but *P. lucens* and *P. pusillus* in nearly all; In a deep pit where three pits are together, between Lennards Wood and Mr. Barber's farmhouse; Again in a pit close to the Knutsford road, between the Red Lodge, Tabley, and Tabley Wall End; Also in a pit on Fair's Farm, at the corner near Red Lodge: a form with long peduncles. This is the most common of all the species which occur in my home district.
3. Ditch at the south end of Hatchmere.
4. Only Lancashire localities given in the Liverpool Floras. Large pit in the lane from the Hooton and Willaston road, near Lowfields Farm, towards Hargrave Hall, shortly before reaching the brook; In a pit a short distance along the lane leading from Capenhurst village towards Gibbet Mill; *Brown.* Pit in field between the junction of the Ledsham station and village roads and Hall Wood Farm; *Id.*
5. [Pond at Duckington; *A. H. Wolley Dod.*]
6. Wybunbury Bog, 1874; *Fraser, sp.*
7. Pit in a field behind the railway-crossing lodge, half a mile "down" the line from Mow Cop Station; A field-pit near to and east of Astbury; *Webb.* The Rundle Ditch, Lower Peover, near the church.

A frequent plant in my home district. Mid-Cheshire is probably the headquarters of this species. I have never gathered it out of my county.

[Var. homophyllus, E.B.]

2. Pit between Mobberley and Ashley; (*Bailey*), *R. C. Rep.* 1881-82.]

P. heterophyllus, Schreb.*Various-leaved Pondweed.*

In the shallow margins of moss-land meres. *P.* July. Native. In two stations; one in the forest and one in South Plain.

2. Baguley Moor (and two Lancashire stations), not uncommon; *Wood, Flo.*, but not mentioned by Wood in his list two years later in *Phyt.* vol. i., where, however, *P. rufescens* is given as "abundant in many places" (p. 282), which

species does not appear at all in his Flora. Not recorded in *Buxt. G.* or *Gr. Flo.* Rostherne Mere, the west side, near Harper's Bank Wood.

3. Achmere; *Robinson, sp.* (the specimens are very fine, as are also those in *Hunt, Hb.*). Hatchmere, S.E. side.

4. Bidston Marsh (*H. Shepherd*), *Hall, Flo.*

Mr. Shepherd is hardly a safe authority here. *P. oblongus* (*polygonifolius*) in his day used to be assigned partly to *natans* and partly to *heterophyllus*; *Watson, MS. Notes.*

P. lucens, Linn.

Lucent Pondweed.

In meres, pools, and deepish pits and canals. *P. July.* Ascends to 500? feet. Native. In North Plain frequent; once in northern Northwich.

1. In the large pool by the railway and Lyme Park boundary, a third of a mile below Disley Station; In the Macclesfield Canal: seen only about a mile south of Lyme Colliery; *Webb, sp.*

2. Found plentifully in Rostherne Mere; *Wood, Flo.* Ditto, and in a pit near the mere; *Buxt. G.* In profusion in one of the ponds near the Hall in Dunham Park; *Gr. Flo.* Not uncommon: Fine and profusely at the Tile-yard pits, Marston; In a pit north of Lennards, &c.; Also fine and with long excurrent mid-ribs in Rostherne Mere under the wood on the west side (*var. acuminatus, Fries.*).

4. Only a single Lancashire station given in the Liverpool Floras.

7. In the trench south of Lower Peover Church, but not fine.

I have gathered the *var. acuminatus, Fries.*, in the central parts of Rostherne, Pickmere and Budworth Meres: at best procurable with a boat.

P. perfoliatus, Linn.

Perfoliate Pondweed.

In meres and canals. *P. July.* Native. Locally and unequally distributed. Confined to Mid-Plain, and once on its border in Eddisbury.

2. Rostherne Mere; *Buxt. G.* Stream by River Birkin, near Bowdon; *Hunt, sp.* Pickmere Mere, near a little boathouse, 1870: seen there plentiful between the boathouse and village on the S.W. side; In the canal on Marston Hall Farm, Northwich.

3. I have seen this by the river under Weaverham, not far from a new breakwater.

4. Only a Lancashire station (canal) known in the Liverpool district.

5. In the Dee, above Chester. [River Dee, near Crewe Hill; *A. H. Wolley Dod.*]

7. In the Macclesfield Canal between Mow Cop and Congleton; *Webb, sp.*

Rare in Cheshire.

[*P. undulatus*, *Wolfg.*, var. *Cooperi*, *Fryer*, in all probability a hybrid between *crispus* and *perfoliatus*, is reported from the River Dee near Chester; (*Fryer*), *J. of B.* 1891, p. 289.]

P. crispus, *Linn.*

Crisp Pondweed.

In meres, ponds, pits, reservoirs, trenches, canals, and slow streams. *P.* June to August. Native. Rather generally distributed. Personal records in 2, 3, 4, 7; second-hand records in 1, 2, 4, 5, 6.

There is no difficulty in finding this species throughout the plain of the county, but you must often walk a mile or two for the purpose.

P. densus, *Linn.*, has been found near Liverpool, and should be carefully searched for in Cheshire; it is most likely to occur near the coast.

P. obtusifolius, *M. & K.*

Grass-like Pondweed.

In pits and trenches. *P.* July. Native. Generally distributed in pits throughout.

1. Pit in the field opposite to the road-entrance of Yew Tree Farm, half a mile N.E. of Woodford; Field-pit to the north of Woodford New Hall; Field-pit north of Wibbersley Hall near Disley; *Webb*, *sp.*
2. In pits and in the brook at Hale Moss; *Buxt. G.* ed. i. (altered in error to *P. compressus* in ed. ii.): locality confirmed by *Herb. Hunt*, *sp.* 1858. Very common and general in my home circuit; In every pit near the Serpentine, Tabley; Pits on Tabley Hill; Near Lennards, &c.
3. Field-pits between Over and Darnhall; (*Anon.*), *Phyt. N.S.* iii. p. 249.
4. Near Woodside; Pit beyond Tranmere Hotel; *Hall*, *Flo.* Near Rock Ferry; *Dick. Flo.* Pit in the lane from the Hooton and Willaston road by Lowfields Farm towards Hargrave Hall, just before junction with the lane from Willaston Toll-gate; Pit in the fields between Little Sutton and Overpool before reaching the stream; In several of the pits at the commencement and a short distance along the lane leading from Capenhurst village in the direction of Gibbet Mill; *Brown*. Pit in fields between Hall Wood Farm and Willaston; *Id.* In a trench near the cottage on Wallasey Pool, 1865-66: probably extinct there by this time.
5. Pits in the continuation of Salters Lane towards Caughall; Pit in a field adjoining the road between Farndon and Barton; *Brown*. Pit by Henlake, West of Saughton. [Duckington, in many ponds; Horton; *A. H. Wolley Dod.*]
7. Plenty in the trench leading south of Lower Peover Churchyard.

A good many printed records for "*compressus*" doubtless apply to this, which none of the Manchester Floras give, whilst they enter "*compressus*" as general.

This pondweed, so local in other parts of England, is widely diffused in Cheshire, and is a most usual plant of Mid-Cheshire

marl-pits. It is the isolation of these pits which preserves it, *rufescens*, &c., from that exterminator of pondweeds, *Elodea*. I quite expect in the future the genus will almost disappear from the English flora. [This expectation has, so far, not been realised.] The plains of Amberley and Henfield in Sussex—classic ground for aquatics in Mr. Borrer's time—present now [1874?] interminable acres of *Elodea*.

P. mucronatus, Schrad.

Mucronate Pondweed.

In pits near canals. *P.* June, July. Native. In one station. Information imperfect? Plain.

2. Seaman's Moss pits, Altrincham, September 1862; *Hunt*, sp. labelled "*P. compressus*, a," and passed as *mucronatus* by Dr. Syme, to whom in 1875 I submitted these specimens, who also wrote—"I have had no motive since *E. B.* was written to make it plain, one way or the other, if *P. mucronatus* be distinct from *P. pusillus*."

P. compressus, Sm.

Errors and confusion.

Wood, *Flo.* has a Lancashire locality under *P. compressus*, viz. "Ponds near Stretford and Chorlton," and refers to fig. in *E. B.*, t. 418: this being the only instance in his book of making any such reference. In his list in *Phyt.* i. (1842) he inserts *P. compressus* as "equally common" with *P. pusillus*. (Note, *E. B.* t. 418 represents *P. compressus*, Sm.) *Buxt. G.* ed. i. along with the above locality joins other Lancashire ones, and adds for Cheshire, "In pits and in the brook at Hale Moss," placing the whole under *P. gramineus*, and quoting *E. B.* t. 2253 (which is the correct figure for Smith's *P. gramineus*). In ed. ii., however, *P. compressus*, Linn., is substituted for *P. gramineus*, and no fig. quoted. *Gr. Flo.* attaches some of the previously recorded localities to *P. compressus*, coupled with *E. B.* t. 418, and states that he considers his plant to differ from *P. pusillus* "only in its broader leaves." Neither *Wood*, *Flo.*, *Wood* in *Phyt.*, *Buxt. G.* ed. ii., or *Gr. Flo.* have any plant entered as *P. obtusifolius*, M. & K., or its synonym *P. gramineus*, Sm. *Herb. Hunt* shows the Hale Moss plant to be *P. obtusifolius*, M. & K.; consequently *Buxt. G.* was originally correct, and I have entered his station, confirmed by Mr. Hunt, to *P. obtusifolius*. The other two Floras, the list in *Phyt.* and *Buxt. G.* ed. ii., are altogether in error; and the insertion of *P. compressus* thus far resolved into a blunder.

With regard to the Liverpool Floras, *Hall. Flo.* says (p. 89), "Mr. H. Shepherd has given me localities for *P. compressus* . . . but I consider that they are referable to the following species," i.e. to *P. gramineus*: consequently no *P. compressus* is entered here. *Dick. Flo.*, following the arrangement of Hooker and Arnott, enters *P. compressus* under var. *β.* (major) of *P. pusillus*; and, in the face of Hall's judicious caution, says, "Ditches and ponds not uncommon. Plentiful about Bidston, Leasowe, Hoylake, &c." *Flo. Liv.* makes no mention of *P. compressus*. I do not know of any single Pondweed being plentiful in the localities assigned by Dr. Dickinson (*P. pectinatus* is the nearest approach to it); much less can I obtain any *P. compressus* from the Liverpool district, or indeed trace a single specimen therefrom. Consequently here again I consider the insertion of *P. compressus* as a Cheshire plant to be a blunder, and the result is that I do not give it as belonging to the county.

P. pusillus, Linn.

Small Pondweed.

In pits, canals, and deep drains. *P.* July. Native. Thinly distributed throughout.

2. In deep drains near Jackson's Boat; *Buxt. G.* Hale Moss;

Gr. Flo. and Hunt, sp. Common: Pits at the Tile-yard, Marston; In a pit between Mr. Steel's Farm on Tabley Hill and in one near the Red Lodge; Also in some deep pits south of the Lennards Wood, but hardly as common as *P. obtusifolius*.

3. A field-pit between Over and Darnhall; (*Anon.*), *Phyt. N.S.* vol. iii. p. 249. Hatchmere; *Melvill*. Ditches, Frodsham Score and Marsh; Ditches, the Rake Lane, Helsby Station; Hatchmere; In the Nantwich Canal, say half a mile N.W. of Beeston Station.
4. Abundant in clay-pits about Woodside, Birkenhead; *Hall, Flo.* In several of the pits between the Hooton and Willaston road and Hargrave Hall; A field-pit between Little Sutton and Overpool, before reaching the stream; *Brown*.
5. Pit near Bickley Wood Farm, Malpas; *Brown*. The canal east from Chester.
6. In a small pit at Crewe, about half a mile south of the station, on the east of the railway, and near it.
7. In the Macclesfield Canal, between Mow Cop and Congleton; *Webb, sp.*

***P. pectinatus*, Linn.**

Fennel-leaved Pondweed.

In meres, pools, streams, and canals, and in brackish water plashes and trenches. *P. July*. Native. Fairly distributed throughout.

1. Redes Mere, near Capesthorpe.
2. In great abundance in the Duke of Bridgewater's Canal, near Lymm; *Bux. G.* Profusely in the stream that runs into Rostherne Mere; *Gr. Flo. and Hunt, sp.* Old Quay Canal; *Warr. List*. Tabley Lake, south side, abundant; Budworth Mere; Pit at Moss Side, Norton Marsh; The canal, Acton Grange; Canal below Altrincham.
3. In a "slack" of the river under Weaverham; Ditches, Frodsham Score.
4. Pits in Woodside; *Hall, Flo.* (now of course destroyed). Pit near the bridge at Poulton; (*Skellon*), *Dick. Flo.* Pond between Cloughton village and Birkenhead Park; (*Lewis*), *App. Flo. Liv.* Between Leasowe Hotel and the Light-house; *Lewis, sp.* Deep drain south side of the shooting-range, Leasowe; *Webb, sp.* (not *scoparius*, I think). In great quantity in the larger plashes on the south side of Wallasey Pool: the *var. scoparius*, I presume; *Webb*. In the canal between Moston Bridge and Mollington Railway Bridge; South of Parkgate; Finchett's Gutter; Blacon Point.
5. Trenches, the Lache Eyes, near Chester; The canal S.W. of Christleton.
6. Canal near the bridge crossing from Nantwich towards Ravensmoor; *Brown*.

Mr. Hunt's specimens have finer and more fully developed fruit than I ever saw on this species. He has gathered the plant in

both July and September from the same place: the earlier crop shows the leafage to great perfection, and represents exactly typical (not *scoparius*) inland *pectinatus*: in the later gathering the leaf-sheaths are broken and withered, but the fruit, just about to fall, is admirably instructive. As compared with September-collected *scoparius* from Sussex, the inner margin is much straighter, in fact, much more *flabellatus*-like.

I believe this species to be general in Cheshire.

P. flabellatus, Bab.

Fan-leaved Pondweed.

P. July. Native. Rare. Information imperfect. Plain.

2. A specimen passed as this by Mr. Syme from a pit near the canal on Marston Hall Farm, near Northwich, September 1867. The canal below Altrincham.

New to Mersey Province; *E. C. Rep.* 1865. Communicated by both Mr. J. E. Whalley and Mr. G. E. Hunt from the Bridge-water Canal, near Eccles, Lancashire, where it grows along with *P. pectinatus*. *Hunt, Hb. sp.*, July 1864, "Canal at Monton Green, Eccles," is another locality for the species; *P. pectinatus* apparently grew in company. Will probably be found in the Cheshire portion of this canal if searched for.

P. filiformis, Nolte.

Misnomer. Error.

4. In the Birket, Great Meols, abundantly in 1871; (*Fisher*), *Flo. Liv.* As subsequently explained in *App. Flo. Liv.* p. 11 (published June 1873), "a very delicate form of *P. pectinatus*, Linn," was mistaken for it. Surprise had been expressed at this occurrence in the review of the *Flo. Liv.* in *J. of B.* x. p. 315.

ZANNICHELLIA, Linn.

Z. palustris, Fries.

Common Zannichellia.

The shallow water of meres and in small pools. P. June, July. Native. Probably fairly distributed throughout (except coastwards?), but much overlooked.

2. The Manchester Floras record no Cheshire stations, and only two for Lancashire. Bowdon (very young); (*Herb. Burton*), *Watson*. All round Budworth Mere edge, in little pools left by the side of the water, but notably about the centre of the north and south sides; Profusely in the shallow edges of Tabley Lake, in this case, of course, a little way under water; Pool by the high-road at Lower Walton.
3. Field-pit by the road, about half a mile south of Spurstow.
4. *Flo. Liv.* separates what *Hall, Flo.* and *Dick. Flo.* include under *Z. palustris*, Linn, and gives *Z. eu-palustris*, Syme, as "frequent," and *Z. pedicellata*, Fries, as "rare:" for the former, consequently, no localities are recorded. There is little doubt an examination would show that these state-

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ments should be modified, if not reversed. I have not obtained any definite records for the present plant from Wirral.

5. A roadside pond by a farm half a mile west of Gorstella.
6. A plash by the side of the road southwards out of Crewe, at the outskirts of the town, 1873; *Newbould and Webb*.
7. Plentiful in a duck-pond opposite the "Crown" at Lower Peover in the dry summer of 1870.

Water-plants, as a rule, are much overlooked. I expect *Z. palustris* will prove to be widely diffused through Cheshire if properly searched for. The form from Budworth Mere differs markedly from the Tabley and Peover plant. It has considerable affinity to *Z. polycarpa*, *Nolte*, and deserves further study.

Z. pedicellata, Fries.

Stalked-fruited Zinnichellia.

In plashes, trenches, and shallow pits near to the coast. *P.* June, July.
Not native. Probably general on and near the coast. Shore.

2. Pond by Moss Side Farm, Norton Marsh.
3. Ditch, Frodsham, 1867; (*Robinson, sp.*), *Hunt, Hb.* Ditches, Frodsham Score; Ditches, the Rake Lane, near Helsby Station.
4. Tranmere Pool; (*J. Shepherd*), *With. Arr.* ed. v. (1812). (A specimen in *Herb.* shows the Tranmere plant to be this.) In pits close to Parkgate; (*Miss E. Potts*), *Hall, Flo.* (Not recently confirmed, but would no doubt belong here.) Common in the various ponds and plashes near Wallasey Pool; *Webb*. Plentiful in the trench of the cottage near the crossing-stones below Wallasey to Bidston Marsh; Also in the depressions on the marsh between Puddington and Burton Point; Finchett's Gutter, Blacon Point. No doubt general. [In a pit between Moreton and Leasowe, near Birkenhead; (*C. Bailey*), *E. C. Rep.* 1885.]
5. Watercourses, the Lache Eyes, near Chester.

RUPPIA, Linn.

R. maritima, Linn.

Common Ruppia.

In brackish plashes and trenches, and in water-holes on seaside marshes.
P. July. Native. In four or five shore stations. Shore.

2. Norton Marsh; *Warr. List.*
4. Birkenhead (*J. Shepherd in Herb.*). Shore-ditches at Tranmere; In ditches by the side of Wallasey Pool, towards Bidston Marsh; *Hall, Flo.* The Hookes, Seacombe; (*Lewis*), *App. Flo. Liv.*: given as *R. rostellata*, but specimens being kindly sent me by the finder, it proved to be the same plant as the Puddington one. In depressions filled with brackish-water on the marsh between Puddington and Burton Point.

Mr. Webb believes that the plant of the Wallasey Pool plashes is *R. spiralis*.

ZOSTERA, Linn.**Z. marina**, Linn.*Common Grasswrack.*

Muddy seashores. *P.* August, September. Native. Occurrence likely, but not recently confirmed.

4. Tranmere Pool; (*H. Shepherd*), *Hall, Flo.* Hoylake; *Dick, Flo.*

The absence of this species from the Cheshire sea-board would be more curious than its occurrence. It is strange that the present generation of Liverpool botanists have not seen it. A confirmation of the given records would be very desirable, though I have no reason to doubt their original correctness.

ALISMACEÆ.

TRIGLOCHIN, Linn.**T. palustre**, Linn.*Marsh Arrow-grass.*

In marshes and wet grassy ground; by canals, &c.; also in ditches, watery hollows, and on glareal mud, near to the coast. *P.* June to August. Native. Thin but equal distribution inland: increasing in frequency coastward.

1. Near Arden Hall; *Gr. Flo.* Sparingly by the conduit at the head of Whaley Bridge reservoir; By the Macclesfield Canal, particularly abundant and fine for about a mile south of Lyme Colliery; *Webb.*
2. Bowdon Moss; *Wood, Flo.* Hale Moss; *Bux. G. and Hunt, sp.* Mobberley; Near Burley Hurst Wood; *Gr. Flo.* (Extinct in last); *Holland.* Seaman's Moss Pits, Altrincham; *Hunt, Hb.* South margin of Pickmere Mere, and again in peaty trenches on Mr. R. Earl's farm, about 300 yards from the Mere, and nearly all round the Mere; Bucklow side of Weaver, just below Acton Bridge; Swampy pasture near the Weaver Canal, north of Sutton Bridge.
3. Hatchmere; *Melvill.* Near Frodsham Score, but rather more inland than *T. maritimum*; Little Budworth Mere.
4. Frequent in the Hundred, according to the Liverpool Floras. Ditches below Wallasey; Again a little inland from the sandhills in damp grassy spots; At Parkgate, south of the town, plentiful, extending to Puddington Marsh; Canal-side, Moston Bridge.
5. Marshy ground below the Dee Cop, near Saltney, sparingly. [By the brook about Tilston; *A. H. Wolley Dod.*]
6. Wybunbury Bog; *Thompson.* Not uncommon about Audlem, but I did not take localities; *Webb.*

T. maritimum, Linn.*Seaside Arrow-grass.*

In salt marshes and meadows, and by the sides of ditches, &c., near to the sea. *P.* June to August. Native. Fairly diffused coastwards. Shore.

2. Richmond Marsh.
3. On the mud at Frodsham Score.

4. Salt marshes, frequent; *Flo. Liv.*, &c. Wallasey Pool; Bromborough Pool; South of Parkgate as far as Puddington Marsh; Blaen Point shooting-range.

SCHEUCHZERIA, Linn.

S. palustris, Linn.

Marsh Scheuchzeria.

In the swampiest part of mosses. *P.* June. Native. In one station. South plain.

6. On Wybunbury Moss; (*Mr. Pinder*), *Garner, N. H. Staff.* (1844). Wybunbury, August 1865; ("*W. W.*" *sp.*), *Hunt, Herb.* (The specimen is only stem and leafage, but clearly correct.)

I have not been able to ascertain the exact date of the discovery by the Rev. Geo. Pinder, but believe it will fall within a year or two of that named above. Mr. Webb states "that a barren specimen was given to him by the late Mr. W. Wilson, who mentioned that he had found it in small quantity only, and in a barren condition,—that it was dying out." It has not been found more recently, though diligently searched for. The best part of the moss has been drained. [It has recently been again found in the above locality; (*E. S. Marshall*), *J. of B.* 1896, p. 136.]

SAGITTARIA, Linn.

S. sagittifolia, Linn.

Common Arrowhead.

The edge of canals and watercourses. *P.* July, August. Native or denizen. Local, shore, south plain, and (once) Northwich.

4. Canal near Ellesmere Port; (*J. Shillito*), *Proc. Liv. L. and P. Soc.* xiii. (1859), p. 7. In four or five places, and in one of them abundantly, in the Dee and Mersey Canal between Moston Bridge and Mollington Bridge. The first occurrence being about 200 yards west of Moston Bridge, 1867: still there in 1873.
5. Five miles N.E. of Wrexham; (*J. E. Bowman, MSS.*), *N. B. G.* sub Cheshire. (But this direction and limit would still be in Flintshire.) In plenty in a watercourse which for a quarter of a mile runs alongside Shay Field Lane, situate between Aldford and Handley; *Newbould and Webb*. The boundary watercourse at Pulford.
6. Canal between Nantwich and Hurleston; *G. R. Jebb*.
7. In the canal near Lea Hall, two miles S.W. of Middlewich; *Jebb*.

ALISMA, Linn.

A. Plantago, Linn.

Common Water-plantain.

Margins of meres, canals, &c., and in ponds, pits, trenches, and ditches. *P.* July, August. Native. Generally distributed. Personal records in 2, 3, 4, 7; second-hand records in 1, 2, 3, 4, 5, 6.

Var. β. lanceolatum, Afz.

5. Field-pit between Mickle Trafford and Plemstall; Bridge Trafford.

A. ranunculoides, Linn.*Lesser Water-plantain.*

In shallow water, or in mud around meres, ponds, and pits, and in trenches and ditches, chiefly near mosses. *P.* July, August. Native. Thin but equal distribution. No hill record.

2. Pond in Tatton Park; (*Mr. Bradbury*), *B. G.* In ponds on Baguley Moor and near Timperley Bridge; *Wood, Flo.* (The latter locality is not repeated in *Mr. Wood's* list in *Phyt.* two years later.) Acton Grange; *Warr. List.* In a square-shaped pit lying in two fields about 300 yards from the north side of Lennards Wood, Tabley, and about two fields from the cover, and in four or five other contiguous pits, where it flowered in 1870; Ditch, Moss Lane, between Moore and the canal.
3. Near Tarvin; (*Okell*), *Lys. M. Brit.* Pits in pastures north of Over; (*Anon.*), *Phyt. N.S.* vol. iii. p. 246. Hatchmere; *Melvill.* East side of Hatchmere; Pit near Peek Mill, Dunham; Fishpool, Delamere.
4. Frequent in pits about Woodside, and westwards to Gilbrook, Wallasey Pool, and Bidston; *Hall, Flo.* About Sutton Hall; (*R. Slack*), *Id.* Wallasey; Hoylake, &c.; *Dick. Flo.* Ponds, ditches, &c., frequent; *Flo. Liv.* Ditches in the Lower Lang Fields, between Hoylake and the Hill Houses; In a set of pits at the junction of the roads half a mile S.W. of Thornton Hough; In a field-pit by the footway about a mile west of Capenhurst Station to the main-road; *Webb.* Pit about half a mile from Landican towards Little Storeton; *Brown.*
5. Pit below Plemstall; The Lache Eyes. [Two or three ponds at the Meadows Farm, Horton; *A. H. Wolley Dod.*]
6. Ponds in Nantwich Park; *Lewis.* Pits on a waste at Clannor Heath, near Wybunbury; *Webb.* Side of the large pool in the field behind Hatherton Lodge, Doddington Park; By the pits on the enclosed part of Beam Heath, Nantwich; *Id.*
7. Abundant in the canal between Middlewich and the Chester and Crewe railway; *Jebb, sp.*

A. natans, Linn.*Floating Water-plantain.*

In the side-water of canals. *P.* July. Native. Rare.

4. In the Dee and Mersey Canal a hundred yards east of the railway viaduct at Mollington, sparingly.
5. In the canal just before you reach Chorlton Bridge (walking eastwards from the above-named locality), in patches extending over a hundred yards, and in both flower and fruit: both this and the Mollington station are on the north or non-towing-path side of the canal; *Webb and J. L. W.*

The first county records (1873). The plant may have crept up the canal from Salop.

BUTOMUS, Linn.**B. umbellatus**, Linn.*Common Flowering-rush.*

The sides of drain trenches, canals, streams, and ponds. *P.* June to August. Native. Dotted here and there (except hills) throughout, but very local.

2. Budworth Mere; *Holland* (1808), p. 178. In the trench which runs from Pickmere Mere, W., near the foot-bridge.
5. In an outflow of the Weaver at Winsford; (*Anon.*), *Phyt. N.S.* iii. p. 245. Frodsham Marshes; (*Robinson, sp.*), *Hunt, Hb.* Wide drains on the moors between Thornton and the River Gowy in the direction of Stoke; and again five miles south in similar drains west of Great Barrow; *Webb.* Ditches, Hapsford Moor; Ditches, Frodsham Marsh.
4. In ditches on Bidston Marsh; In a pond below the village of Bidston; *Hall, Flo.* Pits going to Hoylake; (*Miss Potts*), *Ib.* Leasowe; *Dick, Flo.* Thurstaston Common; (*Fisher*), *Flo. Liv.* In a pond by the road bridge at Blacon Point; *Webb.* In the Birket, at intervals from Lingham to Great Meols; *Brown.* In a small pool close to the road at Moston Bridge with *Hydrocharis*, &c., and thence by the canal-side towards Mollington; Plash at Blacon Point.
5. In plenty in a watercourse which for a quarter of a mile runs alongside Shay Field Lane, situate between Aldford and Handley; *Newbould and Webb.* Watercourse between Lunatic Asylum and the canal, north of Chester: locality shown to me by Chester friends.
6. Canal by the bridge crossing from Nantwich to Ravensmoor; In the River Weaver between Shrew Bridge and Nantwich; *Brown.*

HYDROCHARIDÆ.

HYDROCHARIS, Linn.**H. Morsus-ranæ**, Linn.*Common Frog-bit.*

In ponds, pits, trenches, and wide ditches. *P.* July, August. Native. Local and unequal distribution. Shore and south plain.

2. No Cheshire station given in the Manchester Floras, beyond the statement that it has been introduced in ponds at Bowdon; *Gr. Flo.* Ponds in Grappenhall; *Holland* (1808), p. 178. Latchford; *Warr. List.* The Ditches, Moss Side, Halton Moss.
3. In a small pond near the bend in Rake Lane, about a mile N.W. of Dunham; *Webb.* In a pit near the footpath about two-thirds of the way between Mouldsworth and Manley Lane, Manley; *Brown.* Abundant in the trenches of Frodsham Marsh; The Marsh Lane ditches, Ince; Pit near Peek Mill, Dunham; The Rake Lane ditches, Helsby Station.

4. Very common in the ditches on Bidston Marsh; *Hall, Flo.* Plentiful near Hoylake; *Dick, Flo.* Lingham; Great Meols; Newton; Grange; *Brown, &c.* Woodchurch; (*Miss Grundy*), *Flo. Liv.* In a pond by the road-bridge at Blacon Point; *Webb.* In a small pool close to the roadside at Moston Bridge.
5. Plentiful in the ponds about Tattenhall; *Lewis.* Pits about Caughall; Mickle Trafford; Guilden Sutton; Waverton; Also abundant in most pits between Farndon and Barton; *Brown.* In old pits in the old Dee channel, near Chester, but the station may or may not be in Flint; *Watson, Cyb. Brit.* iii. p. 515. [Very rare: Pond near The Hooks; Pond near Handley; Also at Aldersey; *A. H. Wolley Dod.*]
6. In the canal by the bridge crossing from Nantwich towards Ravensmoor; *Brown.* The north side of the canal at Wrenbury Wharf; *Webb.*

Shows a decided tendency towards the coast: evidently plentiful in the north part of 5 and the N.W. portion of 4. It will be noticed that the plant is given in *Gr. Flo.* as introduced near Bowdon—another reason for distrusting the nativity of plants recorded only from that suburban neighbourhood.

STRATIOTES, Linn.

S. aloides, Linn.

Water-Pine.

In lakes, pools, and pits. *P.* July, August. Denizen or native. Existing records confined to north plain.

1. Pits at Bramhall; *Buxt. G.* Alderley Park; *Gr. Flo.* (*Note.*—The locality given by *Mr. Holme* in the *B. G. Cheshire List*, viz. Gorton, is in Lancashire.) Two ponds near Brereton Hall; and a pond not far from the "Rookery" near Macclesfield; *Sidebotham.*
2. Pit about two fields distant from the Chester road on the right-hand side about a mile from Altrincham; *Buxt. G.* In the sheet of water in Spring Wood, Booth, near Knutsford; *Gr. Flo.* Pond in Roman road, Dunham, between the Park and Dunham village; *Sidebotham.* Pond at Latchford, near Warrington, 1858; *Hunt, sp.* (but *Warr. List.* says "planted" at Latchford). May be found in a large pit near Pedley House, Warford; and almost chokes up a pit on my own farm: but I know that *Mr. Bellhouse* introduced it at the former place, and I at the latter: it is as well to say this, lest any one should discover it and fancy it native in these places; *Holland.* Extremely abundant for many years in Tabley Park: now extinct. I have re-introduced it in great plenty in two of the park pits, getting the plants from Booths Hall water; see for fuller particulars *J. of B.* ix. p. 215.
4. Not uncommon in the higher parts of Wirral; *Dick, Flo.* I cannot account for this statement in *Dick, Flo.*: I have never seen the plant nor heard of its being found, and

consider its occurrence highly improbable as recorded; *Webb, MSS.*

5. [Planted in Edge Park; *A. H. Wolley Dod.*]

7. In pools about four miles from Holmes Chapel; (*Mr. Hunter*), *With. Arr.* ed. iv. (1801).

I think the Water-Pine as native in Central Cheshire as anywhere in England.

ELODEA, Rich.

E. canadensis, Mich.

Canadian Water-weed.

In meres, ponds, pits, canals, slow streams, trenches, &c. *P.* July, August. Alien becoming denizen. Nearly throughout; rarest in the central portions of the county.

1. In Peak Forest Canal; In the Macclesfield Canal; Also in the large pool below Disley Railway Station, 1874; *Webb.*
2. Not mentioned in *Wood, Flo.* (of course), or *Buxt. G.* ed. i. (1849). Sale; Ashton-upon-Mersey; Latchford, and other places; *Gr. Flo.* (1859), and *Buxt. G.* ed. ii. (1859). Bowdon, a flowering plant; 1862; *Hunt, sp.* These are at present our earliest records. About 1869 it reached Tabley Lake, which is now (1874) full of it: it certainly was not there in 1867; Sparingly in Budworth Mere in 1868; Roadside pool, Lower Walton.
3. First made its appearance in Frodsham Marshes "about two years ago;" (*J. F. Robinson*), *Trans. Edin. Bot. Soc.* ix. Part ii. (1868), p. 240. A small and isolated piece of water in Rake Lane a mile N.W. of Dunham, 1873; *Webb.* Thornton-in-the-Moors; River Gowy.
4. Rock Ferry; (*Dr. Collingwood*), *Proc. Liv. L. and P. Soc.* xv. (1861), p. 14. In the Dee and Mersey Canal, but not in large quantity; In an isolated and very out-of-the-way field-pit above the old river-bank, not far from Great Soughall: in flower July 1873: here naturally introduced I believe: it is a rarity still in our Wirral pits and water-courses; *Webb.*
5. Very abundant in most of the pits passed in a walk from Waverton Station by Waverton to Stapleford Mill, and thence by Cotton Edmunds and Christleton to Chester, 1874; *Brown.* Pulford; River Gowy; Lache Eyes, Chester. [In all the mill-ponds along Edge and Grafton brooks; *A. H. Wolley Dod.*]
6. In the River Weaver between Wrenbury and Pinsley Green; and in the same river between Shrew Bridge and Nantwich, 1874; *Brown.* Floating in the canal at Wrenbury Wharf; In the ditch connecting Little Mere and Quoisley Big Mere, near Marbury; In field-pits near Audlem, 1874; *Webb.*
7. The Macclesfield Canal between Mow Cop and Congleton, 1874; *Webb.*

Unfortunately it is not from the rarity that I give the distribution in this instance, but to place on record the first appearances

of this sad pest through the county as far as I can gather them. As we should expect, the main arteries of water traffic seem first to have brought it within our borders, probably not long before 1859: it seems to have taken ten more years to reach such of the inland meres as I had under my own observation.

ORCHIDACEÆ.

ORCHIS, Linn.

O. pyramidalis, Linn.

Pyramidal Orchis.

In sandy grassy ground near to the coast. *P.* July. Native. North coast. Very rare. Shore.

4. Mentioned as having been found at the back of the sandhills at New Brighton; *Hall, Flo.* Among the sandhills beyond New Brighton; (*Wm. Pitman*), *Dick. Flo.* Sandhills at Hoylake, scarce; (*J. Shillito*), *Ib.* New Brighton, one plant; (*Anon.*), *Phyt. N.S.* ii. p. 651. Sandy field, Hoylake; (*Webb*), *Proc. Liv. L. and P. Soc.* xvi. (1862), p. 12.

In my Hoylake station—a field against the hedge-bank of which the seventh milestone is placed—I could not find a specimen in 1873, but had seen a few the previous year: a dozen or so at a time is the greatest number I have seen; *Webb, MSS.*

O. Morio, Linn.

Green-winged Orchis.

In meadows and pastures. *P.* May, June. Native. Thinly distributed throughout.

1. In the Reddish Valley; *Gr. Flo.*
2. Fields about Jackson's Boat, and near Castle Mill, below Cotterill Wood; *Wood, Flo.* By the River Bollin near Bowdon; *Hunt, sp.* A field on Mere House Farm, Mobberley; *Holland.* Not uncommon. I have found it in Tabley Park; It also occurs notably by Waterless and Peover Brook, say between Trout Hall and Holford; A field on the other side of the lane about a quarter of a mile short of Trout Hall I have seen full of it.
3. Oulton Lowe; *Egerton.* Frodsham Marsh; *Webb.* Fields adjoining "Common Side" N.E. of Alvanley Cliff; Near the brook about one mile north of Mouldsworth; Also about half-way between the two above stations; *Brown.*
4. The three Liverpool Floras give this as "frequent," and do not enter localities. Mr. Webb says: "I should state, without hesitation, that *O. Morio* is the commonest Orchis occurring in Wirral: in respect of frequency *maculata* follows it, and then *latifolia*, or rather *incarnata*: *O. maculata* I have been unable to find."
7. Plentiful in the Congleton district; *Sidebotham.*
Probably nowhere very uncommon throughout the county.

O. mascula, *Linn.**Early Orchis.*

In moist woods, meadows, and shady places. *P.* May. Native. Generally distributed. Inland. Hills and plain. Personal records in 2 and 7; second-hand records in 1, 2, 4, 5, 7.

Although given as frequent in the Liverpool Floras, neither Messrs. Webb, Brown, nor Lewis have noticed it in Wirral. Seems to thin out, or perhaps wholly fail, coastwards.

O. incarnata, *Linn.**Marsh Orchis.*

In rough, swampy meadows, on the mosses, and in marshy, heathy, or sandy ground. *P.* June, July. Native. Thinly distributed.

2. Castle Mills, Bowdon, 1858; *Hunt*, *sp.* Not infrequent on Knutsford Lower Moor: found here first by Mr. R. Holland.
3. Frodsham Marsh; *Webb*. By the Pool at Oulton Mill.
4. In damp meadows at the back of the sandhills between New Brighton and Wallasey; *Hall*, *Flo.* Moreton; *Dick*, *Flo.* Plentiful in the low, damp meadows known as the "Lang Fields," the Hill Houses, West Kirby; *Webb*. I believe that I have seen it in damp valley-bottoms amongst the sandhills, but am somewhat confused in memory between the Lancashire localities, where it is plentiful, and those of our Cheshire coast; *Id.* *MSS.*
6. Wybunbury Bog; *Mathews*.
7. In great profusion on Brookhouse Moss.

Mr. Brown informs me that the specimens of this plant collected in the Liverpool district and sent to the Exchange Club as *incarnata* were pronounced by Dr. Syme to be *latifolia*. Mr. Brown writes: "Many of our sandhill plants have their lower leaves hooded, and in very few instances have I ever seen these lower leaves spotted in any part of the Liverpool district, probably never on our sandhills."

O. latifolia, *Linn.**Broad-leaved Marsh Orchis.*

P. June, July. Native. Rare.

2. Boggy pasture by the canal near Sutton Bridge.
4. Meadow, Blacon Point, by path to shooting-range.
5. Meadows by Dee south of Chester; Meadow south of Boughton.
6. [Wybunbury Bog; *A. H. Wolley Dod*.]

O. maculata, *Linn.**Spotted Orchis.*

In woods, meadows, pastures; on the mosses and moist heath-land. *P.* June to August. Native. Generally distributed. Personal records in 1, 2, 4, 7; second-hand records in 1, 2, 3, 4, 5, 6.

GYMNADENIA, *R. BR.***G. conopsea**, *Brown.**Fragrant Orchis.*

In dampish meadows and fields and on wet heath-land. *P.* July. Native. In two hills, one north plain, [one south plain,] and three north coast stations.

1. Field at Hollingworth near Mottram; *Buxt. G.* and *Tinker*,

Hb. fide Baker. In a rough field near the canal, Cote, Micklehurst; *Walker*.

2. Knutsford Moor; (*Mr. Aikin*), *With. Arr.* ed. iii. (1796). In sufficient quantity to scent the air; *Bickham*, *sp.* 1862. (This is the moor south of Knutsford, part of which is marked "Moor Head" on the Ordnance Map.) Knutsford Moor, July 1863; *Hunt*, *sp.* Still there 1870; *Bickham*.
4. Upton; (*J. Shillito*), *Supp. Dick. Flo.* Field by which the pathway from Hoylake to West Kirby passes; (*Fisher and Webb*), *Proc. Liv. L. and P. Soc.* xv. (1861), p. 13. Meadow at Arrow; (*T. Holden*), *Ib.* xvi. (1862), p. 12. I have not come across it at the Hoylake locality since the first find, but have heard that it has been seen there. At Upton I have noticed it several times in a meadow on the left-hand side of the road to Greasby, which I presume is Mr. Shillito's locality; *Webb*, *MSS.*
5. [Rare in Duckington Dingle; *A. H. Wolley Dod.*]

G. albida. *Rich.*

White Orchis.

Rough pastures in the hilly districts. *P.* June, July. Native. Three old hill and one old shore station. Chiefly hills.

1. In Cocker's Fields, Staley Wood; (*Mr. Bradbury*), *B. G.* Pasture fields, Middle and Higher Bank estate, Hollingworth, July 1843; Dry pastures, Hollingworth bank, July 15, 1855; *Tinker*, *Hb. fide Baker*.
4. Bromborough; (*W. H. Hatcher*), *Proc. Liv. L. and P. Soc.* xvi. (1862), p. 12. Does not appear to have been met with subsequently.

HABENARIA, Brown.

H. viridis, Brown.

Frog Orchis.

Pastures in the hilly districts, reappearing at a less elevation near the coast. *P.* July, August. Native. A few hill, shore, and Broxton stations. Chiefly hills and shore.

1. In Cocker's Fields, Staley Wood; (*Mr. Bradbury*), *B. G.* Barn Fields, North Brittan, Hollingworth, *Tinker*, *Hb. fide Baker*. Mottram; *Bux. G.* Sparingly in a little meadow near Woodend (Hyde?) in 1845, in company with *O. maculosa*; *Sidebotham*, *MS.*
2. About Ringway; (*J. Percival*), *Gr. Flo.*
4. On Grange Hill in a field where a stone column is erected, rare; (*Skellon*), *Dick. Flo.* Liscard Vale; (*H. E. Smith*), *Hist. Soc.* i. N.S. (1861). Theobald's Field, Bidston Hill; (*Mrs. F. Boulton*), *Flo. Liv.* I have never been able to find this on Grange Hill, nor have I heard of its being found since the original discovery; *Webb*.
5. In a field adjoining the Lower Hall, Broxton; *J. D. Syddall*, *sp.* (A living plant sent July 1874.) [Plentiful in a field between Duckington and Bickerton; Duckington Dingle; Between Malpas and the Wyches; *A. H. Wolley Dod.*]

H. bifolia, *Brown.**Lesser Butterfly-orchis.*

In wet or swampy grassy ground. *P.* June, July. Native. Rare. Hills and shore.

1. Abundant in the Tame Valley about Reddish; *Sidebotham*.
4. In marshy ground on the north side of Bromborough Pool, near the Mersey; (*R. Slack*), *Hull, Flo.* Bebbington; (*Dr. Dickinson*, 1840), *Ib.* Sutton; Eastham; *Dick. Flo.* Hilbre Island; (1863, *Smith*; 1864, *Gibson*), *Proc. Hist. Soc.* vi. N.S. (1866), p. 262. (*Qy*: Found there since?) *Flo. Liv.* infers that some of the above localities belong to *H. chlorantha*. A single specimen gathered in the same field between Hoylake and the Hill Houses in which *Ophrys apifera* was found, 1874; *Herbert Spence, fide Webb*.
5. [Duckington Dingle, above and below railway; *A. H. Wolley Dod.* (*H. chloroleuca*, *Ridl.*).]

H. chlorantha, *Bab.**Greater Butterfly-orchis.*

In dampish pastures, on grassy banks, in meadows, and in moist woods. *P.* June, July. Native. Fairly diffused in the hills and north plain, to which (with one exception in 3) it seems confined. Chiefly north plain and hills.

1. Rough pastures in Marple Vale, plentiful; Wood near the canal about a mile beyond Staleybridge; *Buxt. G.* At Wimslow on the slope overlooking the Carrs and opposite the Grange; *Gr. Flo.* Meadows and pastures, Werneth; *Sidebotham*, *MSS.* Meadows at Alderley, 1859. *Hunt, sp.* Hollingworth and Mottram; *Tinker, Hb. fide Baker.* In the Goyt Valley, Marple and Disley we have all the intermediate forms between *bifolia* and *chlorantha*, though chiefly verging on the latter: as a rule, the more marked *chlorantha* is found in wet meadows, *bifolia* on hill-sides: I cannot hold them distinct species; *Sidebotham*.
2. Cotterill Wood; *Wood, Flo.*, but is not given in *Buxt. G.* or *Gr. Flo.* Burley Hurst near Mobberley; *Gr. Flo.* By Rostherne Mere; (*Dr. Windsor, sp.*), *Hunt, Hb.* Tolerably common in many parts of Mobberley; Rough pastures near Vale Wood; Damstead Lane: I have never met with *H. bifolia*; *Holland.* Rare, but generally a plant or two every year in an old pasture on Trout Hall Farm, the next field east of the Cheshire Midland Railway in Plumbley; Five or six specimens may be got most years by following the brook up from Holford Mill.
3. Bank in a meadow at Over with *Botrychium*; (*Wood*), *Phyt.* i. p. 481.

OPHRYS, *Linn.***O. apifera**, *Huds.**Bee Ophrys.*

The drier portion of coarse low-lying badly drained meadow-ground near to the coast. *P.* June. Native. In one North Wirral station. Shore.

4. Fields, West Kirby; (*Miss Grundy*), *Proc. Hist. Soc.* vi. N.S.

(1866), p. 262. Shown to me this year (1873) by Master H. Spence in the second field off the fifth field through which the footpath between Hoylake and the Hill Houses passes: about twenty spikes noticed in all. It grows with *Listera ovata*, *Orchis mascula*, and *O. incarnata* (a single specimen of *Habenaria bifolia* was also found) amongst coarse meadow herbage of about its own height. No notice of this appeared in print, but I remember some ten years ago a specimen or two being picked by one of the ladies of the "Field Naturalists' Club" in a similar situation by Warrington Bridge at the head of Wallasey Pool. I then wrote to Mr. Watson about it, and he suggested that it might have been introduced with lime used for the land. It has, however, been found off and on, during a long series of years, in some grassy ground amongst the South Lancashire sandhills, and so constitutes a parallelism with *O. pyramidalis*; Webb, MSS.

SPIRANTHES, Rich.

S. autumnalis, Rich.

Common Lady's-tresses.

In poor pasture ground and on grassy wastes near to the coast. *P.* August, September. Native. Probably confined as an existing plant to a limited tract on the north coast. Shore; extinct elsewhere.

2. Wood near Castle Mill, Cotterill, on left bank of the river (about 1854); (*Mr. Leigh*), *Gr. Flo.* (A most unlikely plant to be met with in a wood.)
4. Among the sandhills near the Rock Fort; (*Watson*), *N. B. G.* Sandhills between Bidston and Leasowe; (*Id.*), *Hall, Flo.* Hoylake; (*Miss Grundy*), *Flo. Liv.* Numerous plants on a piece of common or hard grazing land between Wallasey and Leasowe, which is only separated from the sandhills by a rude wall: may be found about twenty yards inland of the wall by following it abreast at that distance.

Confirmation of the inland locality is certainly desirable. *Herb. Hunt* does not contain any Cheshire specimen.

LISTERA, Brown.

L. cordata, Brown.

Heart-leaved Tway-blade.

On dampish upland heaths. *P.* July. Native. One or two hill stations. Hills.

1. Staley Moors; (*Mr. Bradbury*), *B. G.* On Longside Hill, near Disley; (*Holme*), *Ib.* In Swineshaw old reservoir (Lancashire), now destroyed by the works, but we have moved some plants to another station within the limits of Cheshire; *Walker*. Hollins Clough near Staleybridge; *Tinker, Hb. fide Baker*. Taxal plantation, but sparingly; *Astley List*. This is probably Ladbach plantation.

L. ovata, Brown.*Common Tway-blade.*

In badly drained rushy meadows and pastures; in open woods and plantations, and in marshy grassy oases amongst the sandhills. *P.* June, July. Native. Fairly distributed throughout.

1. Meadows and pastures in Marple Vale; *Buxt. G.*
2. In meadows near Jackson's Boat; *Wood, Flo.* Cotterill Wood; *Buxt. G.* Ashley; Burley Hurst, Mobberley; *Gr. Flo.* Ashley Woods and Cotterill; *Hunt, sps.* Mentioned by the late Sir H. Holland as one of the companion plants of *Saxifraga Hirculus*, on Knutsford Moor; (*Holland*) 1808, p. 177. Plentiful in a rushy piece of land edging Tabley Lake to the south, behind the Tower; Some plants in the "black-pit," Tabley, 1870.
3. Near Oulton; *Egerton.* Meadow just ascending Peckforton Hill from Beeston Station.
4. In a meadow at the back of Gilbrook; (*W. Armistead*), *Hall, Flo.* Sandhills, New Brighton, sparingly; (*A. Higginson*), *Ib.* Bebbington; (*Dr. Dickinson*), *Ib.* Sutton; (*Marrat*), *Dick. Flo.* Stated to be "frequent" in *Flo. Liv.*, and no localities assigned. Mr. Webb says, "From personal knowledge I should not term this frequent in Wirral: I have seen it about the sandhills, still in nothing like the quantity to be met with on the South Lancashire coast; there is plenty of it in some of the Lang Fields near West Kirby; and I have sometimes seen it in the plantations around Birkenhead Park, and in those of the Sandcroft at Cloughton village." Meadows, Blacon Point; The "*Pinguicula* ground," Raby.
5. In fair quantity in the woods near to the river in the south portion of the Eaton Hall grounds; *Webb.* Meadows by Dee, about two miles south of Chester. [Duckington Dingle, above the railway; *A. H. Wolley Dod.*]
6. Wybunbury Moss; *Webb.*

NEOTTIA, Rich.**N. Nidus-avis, Rich.***Bird's Nest.*

In moist woods. *P.* May, June. Native. No certain Cestrian and recent record. Hills and north plain.

1. Wood near Tintwistle; (*Sidebotham*), *Gr. Flo.* (*Qy.* In Cheshire? or is it the same station mentioned in *Buxt. G.*, viz., "Wood on the left bank of the Etherow, near Mottram? *J. Tinker.*")
2. Wood on the banks of the Bollin, Cotterill; *Buxt. G.* ed. ii. and (*J. Percival*), *Gr. Flo.*

The existence of this species in Cheshire at the present time needs confirmation. I have seen no specimens.

EPIPACTIS, Brown.**E. latifolia, All.***Broad-leaved Helleborine.*

In woods and shady places. *P.* July to September. Native. Thinly distributed throughout.

1. Several places between Cheadle and Styal; Near Reddish

Mill; *Buxt. G.* Marple; *Sidebotham, MSS.* Spring Grove, Mossley; *Walker.* Wood above Waterside House, near Disley; The garden portion of Hampers Wood, to the S.E. of the front of Lyme Hall: in the first locality the plant is the slender form described in *Bab. Man.*, and sometimes mistaken for *E. media*; *Webb, sp.*

2. Ashley: rare and uncertain; (*Hunt*), *Gr. Flo.* and *Herb.* Mobberley, a few plants generally come up every year in my orchard; I find it occasionally in plantations in the neighbourhood; (*Holland*), *Gr. Flo.* and *MSS.* To be found in nearly every wood in my home district, notably in a small spinney called "Chestnut Point," on the north side of Tabley Lake; All over Tabley Garden Wood, &c.
3. Vale Royal: a single plant (*qy. var. media?*); *Melvill.*
4. Eastham Woods, frequent; (*Skellon*), *Dick. Flo.* I have never seen this in the Hundred, and in North Wirral we have no likely places for it to grow, nor does the Eastham Wood strike me as suitable; at any rate it has not been found there in recent years; *Webb.*
5. In fair quantity in the plantations a quarter of a mile from the Aldford entrance to the Eaton Hall grounds; *Webb.* Wooded bank of the Dee, opposite Heron Bridge, near Chester; Dell by Grosvenor Bridge, Chester. [Edge Drive; Roadside near Duckington; Near Simmonds Green; Swampy wood near Malpas Station; Pine wood near Bulkeley Hill; *A. H. Wolley Dod.*]
6. Combermere Woods.
7. Among the larger trees at Peover Heath Covert. Probably general in inland Cheshire. After *Orchis mascula* and *maculata* it is the commonest orchid in my home district.

Var. media, Fries.

3. Vale Royal: a single plant (*qy. var. media?*); *Melvill.*
Perhaps an immature state of *E. latifolia*.

E. palustris, Crantz.

Marsh Helleborine.

In marshy or swampy ground, and in damp hollows in the coast sand-hills. *P.* July. Native. Rare, and confined to the north coast, and possibly in the hills. Shore and hills.

1. Woods near Staley Hall; (*Mr. Bradbury*), *B. G.* Millbrook Great Wood; *Tinker, Hv. fide Baker.*
2. Knutsford Moor; (*A. Aikin*), *With. Arr. ed. iii.* (1796). I much doubt its existence here; *Orchis palustris* or *latifolia* may be meant.
4. New Brighton, in moist and marshy places among the sand-hills; *Dick. Flo.* Near Leasowe Castle; *Herb. Dick.* August 1849. Blacon Point; (*Okell*), *Lys. M. Brit.* I have seen a few plants below Wallasey and westward therefrom, but it is a striking rarity on the Cheshire coast compared with that of South Lancashire; *Webb.*
5. [A few plants near Dymock's Mill; *A. H. Wolley Dod.*]

***Malaxis paludosa*, Sm.**

The late Mr. W. Wilson has entered "Cheshire" opposite to this plant in his copy of Watson's "Outlines," now belonging to Mr. B. D. Jackson. It is most likely that he was mistaken in the boundary of our county, and gathered it on Yorkshire ground.

IRIDACEÆ.

IRIS, Linn.**I. Pseudacorus, Linn.***Yellow Iris.*

In and along watercourses, by and in ponds and pits, also in marshes, wet meadows, &c. *P.* Summer. Native. Generally distributed. Personal records in 2, 4, 6, 7; second-hand records in 1, 2, 3, 4, 5, 6.

CROCUS, Linn.**C. nudiflorus, Sm.***Naked-flowered Crocus.*

In meadows near to streams. *P.* September. Not native. Rare.

1. Bramhall; *Gr. Flo.*

2. Common in the neighbourhood of Manchester; *Buxt. G.* Thelwall, near Lymm; *Gr. Flo.*

Buxt. G. enumerates several stations on the right bank of the Mersey; and from the date (1830) of *Hook. Br. Fl.* ed. ii. onwards, this species has been given (under the name *C. speciosus*, Bieb.) as a plant of the Warrington neighbourhood on the authority of the late Mr. W. Wilson. I do not, however, consider it to be native in Cheshire.

C. vernus, Willd.

Casual.

In a field on the left bank of the Mersey, between Cheadle and Norten; (*Mr. J. Warburton*), *Buxt. G.* ed. ii. (See also *Gr. Flo.*) Gorton; (*Holme*), *B. G.* under Cheshire: but this is in Lancashire.

AMARYLLIDACEÆ.

NARCISSUS, Linn.**N. Pseudo-narcissus, Linn.***Daffodil.*

In moistish woods, copses, and shady hedge-banks; also in meadows near to brooks and in orchards. *P.* Spring. Native or denizen. Fairly diffused over a considerable tract round the junction points of Bucklow, Macclesfield, and Northwich. Chiefly north plain.

1. Near Arden Hall; In meadows near Marple Hall; *Gr. Flo.* Werneth; Alderley; *Sidebotham, MSS.* Capesthorpe (in suspicious places); (*Watson*), *N. B. G.* In *Herb. Tinker* from Ashes [*gy. Brushes?*], Staley; *Baker.*

2. Near Castle Miles, Bowdon; *Hunt, sp.* In profusion by the side of Riddings Brook, Lymm, opposite the dripping spring; Mobberley; *Gr. Flo.* Quite wild at Lymm; *Melville.* Common, but not in every wood: profusely in the Lennards Wood, and at the east end of Tabley Lake in a wood called Botany Bay Wood.

3. Bentley's Wood, near Frodsham; (*Robinson, sp.*), *Hunt, Hb.*

4. Wood by Tranmere; (*Watson*), *N. B. G.* (Locality destroyed; *Hall, Flo., &c.*)
5. [Formerly plentiful at Kidnal Farm, but the field has been ploughed, and it seems to have disappeared; Planted in Edge Woods; *A. H. Wolley Dod.*]
7. Plentiful in many fields and bushy places near Congleton: to all appearance native; (*Watson*), *N. B. G.* Profusely in spinneys along Peover Brook, about half-way between Higher and Lower Peover Mill.

***N. major*, Curt.**

An escape from cultivation.

This garden daffodil is often misrecorded for *N. Pseudo-narcissus*, and I have seen it myself in plausible-looking stations about Tabley. Doubtless several of my second-hand records apply to this species, which is evidently gaining through the country, as it appears in ed. vii. of *L. C.*, being absent from ed. vi.

***N. biflorus*, Curt.**

Remnant of cultivation.

4. Hilbre Island; (*Webb, sp.*, 1861), *Hunt, Hb.* Abundantly on Hilbre Island in one place; (*Fisher*), *Flo. Liv.*

"*Narcissus pallidus circulo luteo*, *C. B. Pin.* . . . In some closes at Bellow Hill, near Whitechurch, Cheshire;" (*Mr. Vernon*), *Blackst. Spec.* (1746), p. 58. This is the source of the Cheshire record in *With. Arr.* ed. iv., *D. G.*, &c.

***N. poeticus*, Linn.**

Error. Misnomer.

In the Appendix to *With. Arr.* ed. ii., and in *Gough, Camd. Brit.* vol. ii. (1789), the *N. biflorus* synonym given above is rendered to this species, which is considered accordingly as a plant of Cheshire. Withering subsequently makes the correction.

***Galanthus nivalis*, Linn.**

1. Near Marple Old Hall; *Gr. Flo.* 2. In a field near Ringway Chapel; *Buxt. G.* Plentiful in meadows near Ringway; *Gr. Flo.* 3. Bellaire Wood, near Frodsham, perhaps introduced; and (4) at Bromborough; (*J. F. Robinson*), *Flo. Liv.* Hooton Park; (*Chapman*), *lb.* The Bromborough station probably taken from Anne Pratt's "Haunts of Wild Flowers," pp. 143, 144. and Hooton Park meant.

DIOSCOREÆ.

TAMUS, Linn.***T. communis*, Linn.**

Common Tamus.

In hedges and rough bushy places; also about the borders of woods and in open woods and wooded cloughs. *P. June.* Native. Thinly and equally diffused inland, but becoming common in and towards Wirral.

1. Woods in the Reddish Valley; *Gr. Flo.* Crookley Wood, near Stockport: now nearly destroyed; (*I. Williamson*), *lb.*
2. In and about Cotterill Wood, plentiful; *Wood, Flo.* and *Hunt, sp.* Thelwall: in the lanes near the Powder Mills;

U

Gr. Flo. For many years one plant grew on the Mobberley and Knutsford road, near Broad Oak Lane: it has disappeared for the last five or six years; *Holland.* Local: Jennings Wood, Tabley; I know of about six plants now growing within a mile of Tabley: most of them occur in the district between Lennards Wood and Waterless Brook: one may be seen by skirting the south side of Lennards Wood: it is just inside the cover: the rest are in a little clough running down to Waterless Brook; A good deal in a hedge on Buckley's Farm, Marston; Daresbury, towards the canal; Aston and Rock Savage; Frequent about Lower Walton; S.W. edge of Rose Wood, near Moore.

3. Frequent about Manley, Mouldsworth, and that neighbourhood; *Brown.* Dan Bank road, Beeston Castle; Clay Lane Farm, Newchurch Common; Bridge Trafford, corner of Manley Lane; Hedges near Hey Croft, Spurstow; Near Ridley Hall Farm.
4. Common in Wirral; *Hall, Flo., &c.* Evidently as general in Wirral as in the South of England: I counted sixteen plants along one lane between Parkgate and Gayton; I also saw it south of Parkgate and at Bromborough; Little Soughall; Blacon Point; Bromborough Station.
5. Frog Lane, close to Tattenhall village; Also roadside hedges between Tattenhall Station and Milton Green, sparingly; *Lewis.* Guilden Sutton, S.; Frequent about Chester; Pulford; Gorstella; Handley; Broxton. [Rather common, Edge Park, &c.; *A. H. Wolley Dod.*]
6. Seen about College Field Farm, near Audlem; By Wrenbury Wharf; Between Wirswall and Marbury; Near the Tollgate between Crewe and Crewe Green: in each place sparingly, and not a frequent plant in the Hundred; *Webb.* Noted, but the station forgotten.

Very thinly scattered over inland Cheshire for so common a southern plant.

LILIACEÆ.

PARIS, Linn.

P. quadrifolia, Linn.

Common Herb-Paris.

In moist woods and other damp shady places. *P.* Summer. Native. Rare. Confined in its recent and existing stations to Bucklow. North plain.

1. Wood in Brinnington, near Stockport; (*Holme*), *B. G.*
2. In a wood near the Bolling (*qy.* Cotterill Wood?); and not far from Seale Moor (*qy.* Where is this?); (*Mr. Bradbury*), *B. G.* In the woods of Sir J. F. Leicester, Bart., in Tabley; *Holland* (1812), p. 178. Cotterill Wood in 1875, very unfrequent; *Bickham.* Cotterill Clough; (*W. Thom-*

son), *Mag. Nat. Hist.* v. (1832), p. 755.¹ Wood a little to the S.W. of Hale Barn; *Bux. G.* and (Rogers), *Phyt. N.S.* vi. p. 250. Burley Hurst, where I showed it to Mr. Grindon, plentiful; *Holland*, also *Gr. Flo.* Woods beyond Ashley; *Hunt, sp.* In a wood opposite the canal-bank at Aston Park (Runcorn); (*J. Harrison*), *Supp. Dick. Flo.* Rock Savage Woods; (*Robinson, sp.*), *Hunt, Hb.* Profusely in Pickmere Moss, under the birches at the S.E. end.

3. Woods near Over, 1827; (*Wilson*), *Bot. Misc.*
5. [Lower Wych; *A. H. Wolley Dod.*]
7. Lower Peover; *Old Herbal*.² Plantations near Bostock House, Davenham; (*Dr. Bostock*), *With. Arr. ed. v.* (1812).

POLYGONATUM, Tourn.

P. multiflorum, All.

Common Solomon-seal.

On shaded banks. *P.* June. Alien; a garden outcast?, No recent and native record.

1. A hedge-bank at Mottram; *Wood, Flo.* and *Bux. G.*
2. Railway-bank at Sale, 1857; *Hunt, sp.* "Bradford Wood, Cheshire;" (*Wilson*), *Bot. Misc.* (Probably this Hundred).
7. In Lower Pever (*sic*), near Pooldam; *Old Herbal*.

CONVALLARIA, Linn.

C. majalis, Linn.

Lily-of-the-Valley.

In woods and on shady banks. *P.* May, June. Native. Possibly exists still wild in Eddisbury.

3. In the woods at Ashton Hayes, near Mouldsworth, in Delamere Forest, wild and profusely; *Mainwaring*.
4. Between Woodside and Bidston; (*Dr. Bostock*), *With. Arr. ed. v.* (1812). Hall quotes this, and supposes it to be the same as his locality, on the side of Bidston stone quarry which doubtless it is, as also is the "apparently indigenous" Cheshire station mentioned in *Cyb. Brit.* Mr. Webb gathered a flowering specimen somewhat before 1860, and believes it to be the last obtained, as shortly afterwards the ground was covered over with rubble thrown down from the quarry above, and now a raised roadway to the cemetery skirts the bank. It then grew in company with Bilberry, *Luzula sylvatica* and *Aira flexuosa* on the rocky termination of the Bidston Range, say forty or fifty feet from the base. Fir plantation between Egremont and

¹ In the *Magazine of Natural History*, vol. v., Professor Henslow details 38 different combinations of the leaves and floral parts found by him in 1500 specimens of this plant gathered promiscuously; and Mr. Thomson found in the above station a 39th combination, namely, 8 leaves, 4 sepals, 4 petals, 4 stigmas.

² "In agro primo vel 2° ultra Lower Peover Church provenit sed rarior." —*Old Herbal*.

New Brighton; (*Fisher*), *Proc. Liv. L. and P. Soc.* xv. (1861), p. 13. (Not repeated in *Flo. Liv.*)

5. Formerly in Duckington Wood, Broxton; *Egerton*. [Wood near Duckington; *A. H. Wolley Dod*.]

***Gagea lutea*, Ker.**

Yellow Star-of-Bethlehem.

A remnant or stray of garden cultivation.

"*Ornithogalum luteum*. *C. B. Pin.* 71. . . . In a close near Willow-Moor at Bellow Hill, Cheshire;" (*Mr. Vernon*), *Blackst. Spec.* p. 67.

This record appears in *B. G.*, and is the basis of "Chester?" in *Topog. Bot.* *Mr. Vernon* mentions *Narcissus biflorus* as growing at the same place. No doubt both were originally garden-grown, and had strayed beyond bounds, or the gardens being deserted, the plant had run wild.

***Ornithogalum umbellatum*, Linn.**

Common Star-of-Bethlehem.

A garden stray. Native of Central and Southern Europe.

1. Meadows near Cheadle Bridge, three miles from Stockport; (*Holme*), *B. G.*
2. In fields between Bollington and Hagden Hall, far from any house: now destroyed?; (*Mr. Leigh*), *Gr. Flo.* By a pond in the wood at Bow Green, Bowdon, June 1860; *Hunt*, *sp.*

***Asphodelus fistulosus*, Linn.**

A ballast introduction.

4. In a new-made road at Oxton; (*Webb*), *E. C. Rep.* 1861, and *Comp. Cyb. Brit.* Part iii. p. 582.

SCILLA, Linn.

***S. nutans*, Sm.**

Blue-bell Hyacinth.

In woods, copses, wooded cloughs, and other shady places: rarely in the open, as the remains of a clearance. *P.* April, May. Native. Generally distributed. Personal records in 1, 2, 3, 5, 6, 7; second-hand records in 1, 2, 4, 5, 6, 7.

ALLIUM, Linn.

***A. Scorodoprasum*, Linn.**

Sand Leek.

P. May to August. Native. Rare.

2. Mersey bank-side, at the north bend of Norton Marsh; Richmond Marsh at the outflow of Kekewick Brook, abundant; Along the course of the word "Mersey" in the Ordnance Map, S.W. of Warrington. This grows on the Lancashire side of Mersey, on the rough bushy shore below Speke, and it may be the species referred to by Ray in *Cat. Plant. Angliæ* as seen by him near Chester, and which he did not determine.

***A. vineale*, Linn.**

Crow Leek.

P. Early summer. Native. Rare.

2. Norton Marsh, opposite Penketh Bar; By the Mersey at the outflow of Kekewick Brook, Richmond Marsh: abundant.

5. The Dee Cop, Rood Eye, Chester; The Dee bank, Meadow Plantation, Eaton Hall grounds; Field-bank between "Butter Bach" and the river, south of Chester.

The species has also been reported from (4) Hoylake; (*Shillito*), *Supp. Dick. Flo.*; but I presume this Cheshire locality was found to be an error, as it is not reproduced in *Flo. Liv.* The reference to "Cheshire" in *Topog. Bot.* originated from Mr. Webb's Hale (Lancs.) specimens being misplaced to the Bowdon Hale, which would make them Cestrian. See *E. C. Rep.* 1861.

A. oleraceum, Linn.

Field Garlic.

In meadows. *P. August.* Native. Rare. North Plain.

2. In a field at Plumbley on Trout Hall Farm, by Peover Eye Brook, being the same field as the *Botrychium* station, but nearer the water: several hundred plants annually.
5. The river-cop, Rood Eye, Chester, with *A. vineale*, sparingly.

A. ursinum, Linn.

Broad-leaved Garlic.

In the moist parts of woods (generally near streams), or on the wooded banks of streams, and occasionally by brooks and ditches in the open. *P. May, June.* Native. Rather general throughout, except on shore and south plain, where it becomes scarce. Chiefly north and mid plain.

1. Woods near Arden Hall; Gatley Carrs; *Gr. Flo.* Riverside, Northenden, sparingly; Banks at the junction of the Etherow and Goyt.
2. Bowden; *Hunt, sp.* Fields about Runcorn; *Bact. Br. Bot.* ii. (1835), 97. Rose Wood near Moore; Common in most of our woods near running water: profusely in the woods by the Waterless Brook, both north and south of the White Lodge, Tabley: great quantities of the root were dug here in 1869 as a quack specific against cattle-plague.
3. Dell by Moors Brook, by the footpath, about half-way between Manley and Alvanley; *Brown.*
4. *Hall, Flo.* has two Lancashire stations, increased to four in *Dick. Flo.*, whilst *Flo. Liv.* says "common." The side of a ditch at right angles to the shore-wall in the field immediately south of Parkgate.
7. Dane River banks, below the bridge at Congleton; *Watson, MS. notes.* Common: Abundant by Peover Brook, e.g. between the two Peover Mills.

NARTHECIUM, Huds.

N. Ossifragum, Huds.

Bog Asphodel.

On mosses, and in wet and boggy places on a heathy or peaty soil, ascending to the highest springy moorlands. *P. July, August.* Ascends to 1750 feet. Native. Fairly general distribution. Personal records in 1, 2, 3, 5, 7; second-hand records in 1, 2, 3, 4 [5], 6.

This is not an invariable plant of every Cheshire moss.

COLCHICUM, Linn.

C. autumnale, Linn.*Meadow Saffron.*In meadows. *P.* September. Native?. Rare. Hills and plain.

1. Meadow between Castle Hall and river, Staley; (*Mr. Bradbury*), *B. G.* Plentifully in a meadow at Shaw Moor, a mile S.W. of Staleybridge, 1873 or 1874; *Walker*.

5. [Meadow at Edge Hall; *A. H. Wolley Dod*.]

7. A field near Withington Hall; *Mainwaring*, *sp.*

Mentioned as a Cheshire plant in *Hook. Br. Fl.* ed. ii. (1830), on the authority of *Mr. J. Gaskarth*.

JUNCACEÆ.

LUZULA, DC.

L. pilosa, Willd.*Hairy Wood-rush.*

In woods, copses, dells, and wooded cloughs. *P.* April, May. Native. Generally distributed. Personal records in 1, 2, 3, 5; second-hand records in 1, 2, 4.

It is not always easy to find this plant in any given neighbourhood: it nearly requires distribution, but not quite.

L. sylvatica, Bich.*Great Wood-rush.*

On wooded rocky banks, and in cloughs in the hilly districts; and in woods, &c., on sandstone ground near the coast. *P.* May, June. Ascends to 900 feet. Native. Local and unequal distribution. Chiefly hills and shore.

1. Rocky and woody situations on the banks of the Goyt; *Buxton G.* Bredbury Wood, abundant; *Sidebotham*, *MSS.* The wooded banks of the stream that supplies the reservoir at Whaley Bridge; *Webb*. Apethorne Wood, near Hyde.
2. Kekewick Hill (Daresbury); *Warr. List*.
3. Wood, Horsley Hill, Beeston.
4. Woods and shady places, common; *Hall, Flo.*, &c. Although common on the east side of Wirral, *e.g.* about Eastham and the neighbourhood of Bidston, I do not recollect it on the Dee side; *Webb*. At Eastham I saw some tufts of this on a wooded rocky bank near the river.
5. The wall on the west side of Carden Cliff Wood, near Carden; *Webb*. Meadow plantation, Eaton Hall grounds; Brompton. [Rare: Rabbit warren, Edge Park; *A. H. Wolley Dod*.]
7. On the rocky and heathy banks below the Black Cloud, north of Congleton; *Webb*.

Never found yet in my home district. There is a single immature spike of *sylvatica* mixed with the sheet of *L. pilosa* from Ashley Woods in *Hunt, Hb.*, but I cannot find any home-gathered and named specimens of the species in the herbarium, and this scrap may have drifted in from other sources.

L. campestris*, DC.Field Wood-rush.*

Pastures, commons, grassy wastes, hedge-banks, &c. *P.* April, May. Native. Generally distributed. Personal records in 1, 2, 3, 7; second-hand records in 1, 2, 3, 4, 6.

So large a factor of Cheshire pasturage in spring, that the saying goes, when a cow can bite three of these stalks in flower at a mouthful, it is time for the cattle to be turned out to graze.

***L. Forsteri*, DC.**

Error. Misnomer.

Tranmere Wood; *T. B. Hall* in *Nat.* ii. (1837), p. 248. Subsequently explained (*Hall, Flo.* p. 86) that a narrow-leaved plant of *L. pilosa* had been mistaken for it.

L. multiflora*, Koch.Heathland Wood-rush.*

In open woods and in moist places on heathy and moory ground, also on the mosses. *P.* May, June. Ascends to 1750 feet. Native. Generally distributed. Personal records in 1, 2, 3, 7; second-hand records in 1, 2, 4, 6.

Judging from the records to hand, both *var. congesta* and *var. umbellata* seem too common for distribution; of the two, the former has been oftenest gathered, and I may note that Mr. Webb has collected *congesta* up to 1750 feet, but not chanced upon *umbellata* beyond 1500 feet.

JUNCUS, Linn.***J. maritimus*, Sm.***Sea-side Rush.*

Near the coast, ranging from the vegetation-covered strand liable to be overflowed, to sandy grassy wastes adjoining the cultivated land. *P.* July, August. Native. Confined to Hilbre and the north and east coast of Wirral. Shore.

4. Woodside, 1837; (*J. Tatham*), *Hunt, Hb.* Wallasey Pool; Also at the back of the sandhills between Hoylake and (West) Kirby; *Hall, Flo.* Behind the sandhills between Wallasey and Leasowe; (*Lewis*), *Flo. Liv.* Bromborough marsh; (*Fisher*), *lb.* The strand of the river at intervals from Bromborough to Ellesmere Port; *Brown and Webb.* In large patches on Hoylake Racecourse; *Webb.* On the heathy top of Little Hilbre Island, fine; Also more sparingly on the Greater Island in a similar position in large tufts among the Ling and *Erica cinerea*; Profusely in the meadows by Bromborough Pool, at the edge for nearly its whole length.

J. conglomeratus*, Linn.Common Rush.*

In poor pastures and wet and marshy waste ground generally, from the hill-tops to the sea-shore. *P.* July. Ascends to 1800 feet. Native. Generally distributed. Personal records in 2, 4, 6, 7; second-hand records in 1, 2, 3, 4, 5, 6, 7.

J. effusus, Linn.*Soft Rush.*

In poor pastures and wet or marshy waste ground generally. *P.* July. Native. Generally distributed. Personal records in 2, 7; second-hand records in 1, 2, 3, 4, 5, 6.

J. diffusus, Hoppe.*Hoppe's Rush.*

In damp grassy places. *P.* July. Native. Once in Bucklow; [once in Broxton]. Information imperfect. North [and south] plain.

2. Seaman's Moss pits, August and September 1869; *Hunt, sp.*
5. [Pond near Holywell Gorse; *A. H. Wolley Dod.*]

J. glaucus, Sibth.*Hard Rush.*

Wastes by roadsides, canals, poor badly-drained pastures, &c., but confined to the medium and low levels. *P.* July. Ascends to 500 feet. Native. Generally distributed. Personal records in 1, 2, 3, 4, 6, 7; second-hand records in 1, 2, 3, 4, 5, 6, 7.

- A variety with light-coloured sheaths grows near the new school at Tabley by the turfy margin of the high-road. This Dr. Trimen compares with an Estremaduran Rush (*J. glaucus, var. β.*) in his "Revision of Portuguese Juncaceæ" in *J. of B. i. N.S.* (1872), p. 133. I daresay this variety is common in Cheshire, but in South England I have only as yet noticed black-sheathed *glaucus*.

J. filiformis, Linn.

Error. Misnomer.

In marshy places, &c.; (*Mr. Bradbury*), *B. G.* Starved specimens of one of the common Rushes (probably *J. conglomeratus*) must have been mistaken for it, for it can hardly be a slip for *Carex filiformis*.

J. obtusiflorus, Ehrh.*Blunt-fruited Rush.*

The overgrown borders of ponds, pits, and ditches. *P.* August. Native. Rare. Extremely local. Four or five detached stations. Mid and south plain.

2. Seaman's Moss pits near Altrincham, plentiful; Hale Moss, abundant; *Bux. G.* and *Hunt, sps.*, August and September 1869 and August 1857 respectively. Mr. Watson has seen specimens from Mere Mere, collected by Dr. Wood, dated 1846. Mere Mere, 1870; *Sidebotham, sp.*
3. Near Oakmere; *Sidebotham*.
4. Not mentioned in *Hall, Flo.*, but "frequent" according to *Dick. Flo.* and *Flo. Liv.* I have not, however, been able to obtain any Wirral stations.
5. Pit in a large pasture by the side of the lane between the farm near the south entrance gates to Aldersey Hall and Chowley; *Webb*.
6. Ditch alongside the north margin of Little Mere near Marbury; *Webb*.

An extremely local Rush, one I have not gathered in Cheshire myself, and as yet only once in England. The general impression conveyed by the later Liverpool Floras, and to some extent by the Manchester ones, is that of a frequent species.

J. acutiflorus, Ehrh.*Sharp-flowered Rush.*

In wet boggy meadows and on sphagnous mosses. *P.* July, August. Ascends to 900 feet. Native. Generally distributed. Personal records in 2, 3, 4, 6, 7; second-hand records in 1, 2, 4, 5, 6, 7.

J. lamprocarpus, Ehrh.*Shining-fruited Rush.*

In wet and boggy ground of nearly all descriptions. *P.* July, August. Ascends to 1500 feet. Native. Generally distributed. Personal records in 1, 2, 3, 4, 7; second-hand records in 1, 2, 3, 4, 5, 6, 7.

I have gathered starved and stunted examples of *J. lamprocarpus*, on the dried-up margin of Mere Mere in a droughty season, which I cannot distinguish from the specimens distributed in 1869 as *J. nigritellus*, *D. Don*, by Dr. Syme from Loch Leven; but I do not profess to understand this variety critically.

Mr. Watson says apparently a small state of *lamprocarpus*? reported (among other counties) from Chester; *Comp. Cyb. Brit.* Part iii. p. 586. (The Chester record is "New Brighton" on the faith of C. C. Babington. Doubtless this would be a small state of *lamprocarpus*; *Watson*, 1875.)

J. pelocarpus, E. Mey.

This is mentioned in the *E. C. Rep.* of 1859 as gathered by Mr. G. Hunt at (2) Hale Moss, 1857. The specimen in Hunt's Herbarium thence, which is noted as having been passed by Mr. Baker, seems to me a state of *lamprocarpus* on the *obtusiflorus* side.

J. supinus, Monch.*Bog Rush.*

The mosses, and in ditches, water-hollows, and ponds on peaty heathlands. *P.* July, August. Ascends to 800 feet. Not native. Rare. Personal records in 1, 2, 4, 7; second-hand records in 1, 2, 3, 4, 6, 7.

Though *Flo. Liv.* treats this as a rarity, I consider it may be found throughout Wirral in all suitable places; *Webb*.

J. bufonius, Linn.*Toad Rush.*

On light-soil ground where it is damp, marshy, or partially inundated. *A.* June to August. Ascends to 1500 feet. Native. Generally distributed. Personal records in 1, 2, 3, 4, 6, 7; second-hand records in 1, 2, 3, 4, 5, 6, 7.

The *var. fasciculatus*, *Koch.*, is only a state of this. Good specimens, passed as such by Dr. Syme, were got by me in the dry summer of 1870 at Mere Mere, and will be found anywhere else where the type seeds under appropriate circumstances.

J. Gerardi, Lois.*Sea-mud Rush.*

In salt marshes, meadows, and wastes, and along watercourses, &c., near to the coast. *P.* June to August. Native. Fairly diffused round the coasts of Wirral from Puddington to Bromborough. A few inland stations. Chiefly shore.

2. Richmond Marsh; Norton Marsh, sparingly.
3. Ditch-sides, Frodsham Marsh.
4. Common on the shores of the Mersey; *Hall, Flo.*, where the present species *only* is given. The two later Floras, on

the other hand, insert it and *J. compressus* as equally frequent. This I consider to be a mistake, as will be seen by my remarks under the latter. The present is no doubt a common plant near the coast circuit, extending a little inland, and, as it varies considerably in the shape of its panicle, any one who has never seen real *compressus* can easily gather specimens of *Gerardi* which fairly fit the book characters of the former. In the grass near Bromborough Pool, *e.g.* Opposite the Candleworks: common; By the cottage near Wallasey Pool, in the short salt pasture: abundant; Top of Little and Greater Hilbre Islands; On the shore a mile south of Parkgate; Puddington Marsh; The Cop, Chester; Blaen Point shooting-range.

5. Dee Cop, and in the trench of a field at its Chester extremity; The Lache Eyes. [Behind Aldersey Hall, in a small brackish pool; *A. H. Wolley Dod.*]

J. compressus, Jacq.

Error. Misnomer.

Given in *Dick. Flo.* as frequent, and repeated in *Flo. Liv.* As at present informed, I have neither gathered or seen undoubted *compressus* from Wirral as I know it at Moulsey Hurst (quoted by Dr. Syme in *E. B.*) and Shepherd's Bush Brickfields. All the specimens come to *J. Gerardi*, Loes. In the Puddington Marsh I got the nearest thing to the above, but still I do not feel sure that this was true *compressus*.

J. squarrosus, Linn.

Heath Rush.

On bare heaths, moors, and upland barren pastures. *P.* June, July. Ascends to 1800 feet. Native. Rare. Personal records in 1, 2, 3, 4, 5, 7; second-hand records in 1, 2, 3, 4, 6, 7.

CYPERACEÆ.

SCHÆNUS, Linn.

S. nigricans, Linn.

Black Bog-rush.

In the boggy parts of mosses. *P.* June, July. Native. Rare. North and south plain.

2. Stretton Moss, plentiful; *Bux. G.* ed. ii.
6. Wybunbury Moss; *Garner, N. H. Staff.* 1844. Ditto, June 1874; *Fraser. sp.*, and *Thompson, sp.* It may be found about the middle of the open part of the moss; *Webb.*

CLADIUM, R. Br.

C. Mariscus, R. Br.

Prickly Fen-sedge.

On the mosses and in boggy ground adjoining meres. *P.* July, August. Native. In three or four detached plain stations.

2. In boggy places on the Bowdon side of Rostherne Mere; *Wood, Flo.* and *Gr. Flo.* Stretton Moss, plentiful; *Bux. G.* N.W. corner of Rostherne Mere, between Gale Bog and onwards, close up to the large plantation on the east side.
6. Wybunbury Moss; *Garner, N. H. Staff.* (1844). Ditto; *Thompson*, 1874.

RHYNCHOSPORA, Vahl.**R. alba, Vahl.***White Beak-sedge.*

In sphagnous spongy places on the mosses and wet peat-lands. *P.* June to August. Native. Thinly diffused through Bucklow and Macclesfield, and almost confined to them. Chiefly north plain.

1. Lindow Common; *Buxt. G.* In several places upon Danes Moss, near Macclesfield; In plenty on an isolated piece of the moss half a mile south of the rifle butts; *Webb.* Lindow Common, mid-west side, abundant.
2. Carrington Moss; *Wood, Flo.* Shaw's Heath, Knutsford; (*Holland, Gr. Flo.* The Shaw's Heath locality given by Mr. Grindon as on my authority is certainly a mistake: I could not have found it there, for it is not a suitable place for the plant: I told him of *Scirpus setaceus*, which used to be plentiful there: at any rate, neither *Scirpus* or *Rhynchospora* is likely to grow there again, for one side of the heath is improved into a field, and the other is a brick-yard; *Holland.* The *Scirpus* is pretty sure to be there still. At Marston tile-yard, which is exactly like the Shaw's Heath brickfield, there is plenty. Holford Moss, sparingly, 1870.
3. North Moss, Oakmere.
6. Wybunbury Moss; *Fraser, &c.*

BLYSMUS, Panz.**B. rufus, Link.***Narrow-leaved Blysmus.*

Swampy vegetation-covered salt-marsh land. *P.* July. Native. Once on the west coast of Wirral. Shore.

4. In four or five places on the marsh below Puddington, especially round a boggy extension, formed by the influx of a small stream immediately to the south of Burton Point. My Shotwick station, given in *Flo. Liv.* and in *J. of B.* vol. ix. p. 8, is in Flintshire, I find.

SCIRPUS, Linn.**S. acicularis, Linn.***Needle Scirpus.*

The margin and sandy strand of meres, lakes, and ponds. *P.* July, August. Native. Information imperfect. North plain and shore.

2. On the borders of Mere Mere, plentiful; *Wood Flo.* and *Hardy and Hunt, sp.* About pits half a mile on this side (Manchester) of Knutsford; *Buxt. G.* (*Qy.* Shaw's Heath? where the ground used to be suitable, and which is just half a mile out of Knutsford, towards Manchester.) Abundant, but often submerged: very minute, and difficult to obtain in fruit, in the damp sand on the S.E. margin of Tabley Lake, in that part of the park called the Ten-Acre, and indeed all round the lake; In beautiful and copious fruit in Mere Mere in 1870; also here and there in fruit the same year at Tabley, being a very dry one.

3. South-east margin of Hatchmere.

4. Not common: Bidston Heath; *Dick. Flo.* Practically I know nothing whatever of this as a plant of the Liverpool district; *Webb, MSS.*

No doubt on the margin of most Cheshire meres; requires careful search.

***S. palustris*, Linn.**

Marsh Scirpus.

By the side of meres and ponds and in pits and marshes. *P.* July, August. Native. Generally distributed. Personal records in 1, 2, 3, 4, 7; second-hand records in 1, 2, 3, 4, 5, 6, 7.

Starved specimens grown on dry heathy ground, as is the case, *e.g.* on Peover Heath, assume the general appearance of *multicaulis*; even the arching of the stems, as in dry-grown *multicaulis*, is simulated.

***S. uniglumis*, Link.**

Link's Scirpus.

Near the coast, both in watery places on waste sandy ground, and in coarse damp meadows. *P.* July, August. Native. Confined to the north and west coast. Shore.

3. Sides of the trenches, the west portion of Frodsham Marsh.

4. By Wallasey Pool, 1837; *Watson.* By the side of a pit close to Leasowe Lighthouse, growing with *S. palustris*, and only sparingly; In large quantity in the Upper Lang Fields under Lang Lane, the Hill Houses, West Kirby; *Mr. Watson* has, if I mistake not, specimens in his herbarium gathered many years ago on the Cheshire coast; *Webb.* The edge of a mound by a swampy piece of ground on the shore, some half-mile south of Parkgate (shown me here by *Mr. Webb*).

***S. multicaulis*, Sm.**

Many-stalked Scirpus.

On wet heaths where the ground is pretty clear of large vegetation, and on the swampy borders of meres. *P.* July, August. Native. Information imperfect. Probably thinly distributed throughout.

1. Eaton Moss, near (north of) Congleton; *Gr. Flo.*

2. Stretton Moss; *Buxt. G.* ed. ii.

3. Abundant on swampy ground adjoining the east side of Oakmere, where an arm projects to Holly Farm; *Brown.* Newchurch Common; Fish Pool, Delamere; North swamp at Hatchmere, sparingly; Margin of the east prolongation of Oakmere, abundant.

4. Frankby; (*Rev. H. H. Higgins*), *Flo. Liv.* Oxtan Heath; (*Fisher*), *Id.* Frequent on moist heaths in Wirral; (*Webb*), *App. Flo. Liv.*, *e.g.* the south-west portion of Oxtan Heath, where it is often viviparous, and the Heswell Heath range, particularly around the swamp at Oldfield; *Webb.* Heswell; *Brown.*

Probably much overlooked, and not uncommon in the right places.

S. pauciflorus, *Lightf.**Few-flowered Scirpus.*

In boggy places upon heaths and in large wet turfy valleys amongst the coast sandhills. *P.* July, August. Native. Information imperfect. Probably thinly diffused throughout.

2. Hale Moss; (*Crozier*), *Sidebotham*, MSS., and (July 1857) *Hunt*, *sp.*
4. Heath near Tranmere; (*Watson*), *N. B. G.* (*Note*.—*Hall*, *Flo.* includes this record with several Lancashire ones, whilst *Dick. Flo.* omits the species. *Flo. Liv.* notes that the Tranmere station is destroyed.) Moist ground on the N.E. side of the piece of heath-land that reaches the shore below Heswell; *Webb*, *sp.* In some short-grassed land opposite where the road through Wallasey village terminates at the coast; The "*Pinguicula* ground," *Raby*.
7. In the turf of the green by the pond behind Lower Peover Heath, but outside the heath itself.

S. cæspitosus, *Linn.**Tufted Scirpus.*

On the mosses and in boggy soil on heaths and moorlands. *P.* May, June, (July?). Ascends to 1750 feet. Native. Generally distributed. Personal records in 1, 2, 3, 5, 7; second-hand records in 1, 2, [5].

It is almost impossible, with my knowledge of the plant, to miss this on suitable ground, though I know botanists are in the habit of treating it as a rarity.

S. fluitans, *Linn.**Floating Scirpus.*

In ponds and at pit-sides, often under water, sometimes in sphagnum plashes on heaths. *P.* June, July. Native. Information imperfect. Thinly diffused throughout?

2. Baguley Moor; *Wood*, *Flo.* Local: In a pit near Lennards Wood on Mr. Jackson's farm, with *Osmunda*, *Sium angustifolium*, &c.
3. Hatchmere; *Melville*. Fish Pool, Delamere.
4. In ponds occasionally in Wirral, but not common; *Hall*, *Flo.* Oxton Heath; (*Fisher*), *Flo. Liv.* I have only seen it in the pond on Oxton Heath, above Noctorum; *Webb*. Pit in fields adjoining the lane leading from the Toll-gate between Willaston and Hooton railway station; *Brown*.
5. [Pond near Tilston Church; Pond near Horton Hall; *A. H. Wolley Dod*.]
7. Copiously in and around a pit on Peover Heath adjoining the large pond, but inside the heath enclosure.

S. Savii, *S. & M.*

Error in locality.

Mr. Watson had this entered for Cheshire on what proved to be a Lancashire locality (Warbrick Moor; *Fisher*). It has recently been found on the South Lancashire coast (*vide App. Flo. Liv.*), and should be looked for in Wirral; the same also with regard to *Blysmus compressus*, which is plentiful by the Alt at Altcar.

S. setaceus, Linn.*Bristle Scirpus.*

In poor pasture-ground and wastes liable to be flooded; about the margins of pools, pits, &c., and occasionally on damp, grassy banks and in meadows; rarely among poorish root-crops. *P.* July, August. Ascends to 800 feet. Native. Generally distributed. Personal records in 2, 4; second-hand records in 1, 2, 4, [5], 7.

S. lacustris, Linn.*Lake Scirpus.*

The margins of meres and pools and in pits. *P.* July, August. Native. Thinly and locally diffused throughout (except hills) inland. One shore record. Chiefly plain.

1. Edges of Radnor Mere, Alderley Park; *Gr. Flo.*
 2. The N.W. borders of Rostherne Mere; *Wood, Flo., Buxt. G. and Hunt, sp.* In Booth mill-dam near Knutsford; *Buxt. G.* Old Quay Canal; *Warr. List.* In a pit at Woodend, Mobberley; *Holland.* Rather local: It grows in a pit 200 yards due south of Tabley House; Also copiously at Budworth Mere and at Pickmere; In a pit by the Cheshire Midland Railway between Knutsford and Mobberley.
 4. Margin of a pit between Great Meols Station and Newton; *Brown.*
 5. Near Middle Trafford; *Manning.*
 6. Marbury Small Mere; *Brown.* The margin of Quoistley Big Mere, near Marbury; Marbury Mere; *Webb.* Combermere Mere.
 7. Brereton Mere, Congleton; *Gr. Flo.*
- I have seen but little of this in Cheshire.

S. Tabernamontani, Gmel.*Glaucous Scirpus.*

In watercourses near to the coast, and rarely on the margins of streams inland. *P.* July, August. Native. Fairly diffused in Wirral, rare elsewhere. Chiefly shore.

3. Ditch, Ince Marsh; By Little Budworth Mere.
4. Abundant in ditches on Bidston Marsh; *Hall, Flo.* (Entered as *S. lacustris*, from which it was first separated by *Rev. H. H. Higgins*, and is given accordingly in *Flo. Liv.*) On the south side of the marsh at Burton Point; *Webb and J. L. W.* In the canal at Ellesmere Port; *Brown.* Plentiful on the edges of Wallasey Pool and the ditches adjoining.
5. [Bar Mere; *A. H. Wolley Dod.*]
6. Banks of the Weaver at Shrew Bridge near Nantwich; *Brown, sp.* [Mill-pond near Wybunbury; *A. H. Wolley Dod.*]

S. maritimus, Linn.*Seaside Scirpus.*

In watercourses on low-lying lands near to the coast; in salt marshes and about the borders of tidal inlets. *P.* July, August. Native. Generally diffused on the three coasts. Shore.

2. Norton Marsh; Extends to the extreme east of Richmond Marsh.
3. Ditches off "The Rake Lane," near Helsby Station; Ince Marsh.

4. In ditches on Bidston Marsh, abundant; *Hall, Flo.* At intervals on the river-bank between Eastham and Ellesmere Port; *Webb and Brown.* Common in all suitable places on the Dee coast up to Blacon Point; *Webb.* Wallasey Pool, fine, just the coast-side of the cottage at the stepping-stones; In a pit near the coast-line, say a mile north of Parkgate; Puddington Marsh; Dee Side, The Cop, Chester.
5. Between Saltney and The Lache Eyes; Dee Cop, Chester.

S. sylvaticus, Linn.*Wood Scirpus.*

In moist woods, along the wooded banks of streams, and in shaded swamps and pits. *P.* July. Native. Thinly but equally distributed.

1. Reddish Vale; *Buxt. G.* Bredbury Wood; *Sidebotham, MSS.* In Huntley Wood between Lower Pexhill and Henbury Hall, near Macclesfield; *Webb.*
2. Common in the Manchester district; *Buxt. G. &c.* Between Ashley and Cotterill; *Gr. Flo.* and *Hunt. sp.* Burley Hurst Wood, Mobberley; *Gr. Flo.* Plentiful by the brook which feeds Mobberley mill-dam; *Holland.* Rather local: Just under the bridge over Waterless Brook on the Northwich Road, Tabley; A pit near Sudlow Lane in Tabley Park; By the brook, *Massey's Meadow*; The Stew Pit, Botany Bay; David's Hut Firs, 1870; Fine in the wood west of Rostherne Mere; Weaverside, plentiful just below Acton Bridge; Cotterill Clough.
3. Swampy ground where the supplying stream of Bradford mill-dam (1½ mile north of Over) has exit from the wood west of the mill; (*Anon.*), *Phyt. N.S.* iii. (1859), p. 247.
4. Bromborough woods; (*Higgins and Marrat*), *Flo. Liv.*
5. By the Dee, alongside the meadow footpath to Heron Bridge from Chester. [Lower Wych; By Edge Lower Mill-pond; *A. H. Wolley Dod.*]
6. Wybunbury Moss, by the trees at east end; *Newbould and Webb.* [Mill-pond, near Wybunbury; *A. H. Wolley Dod.*]
7. In the second hedge which meets the trench at right angles running south from Lower Peover Church, and close to it.

ERIOPHORUM, Linn.**E. vaginatum, Linn.***Moss-crop Cotton-sedge.*

On the mosses, boggy heathlands, and wet upland moors. *P.* April, May. Ascends to 1800 feet. Native. Generally distributed. Personal records in 1, 2, 3, 6, 7; second-hand records in 1, 2, 3, 6.

E. angustifolium, Roth.*Common Cotton-sedge.*

On the mosses, and scattered over wet and boggy heaths and moorlands. *P.* April to June. Ascends to 1837 feet. Native. Generally distributed. Personal records in 1, 2, 3, 4, 7; second-hand records in 1, 2, 3, 4, [5], 6.

Of the three varieties into which Dr. Syme divides this, I find

that *elatus*, Koch, is the most prevalent in my home district; *genuinum* occurs, but more rarely; *minus* I have seen at Crowden, and it is the ordinary plant of Wirral.

E. latifolium, Hoppe.

Error. Misnomer.

Given both in the Manchester and the Liverpool Floras. No reliable record. Broad-leaved states of *E. angustifolium*, i.e. Syme's var. *elatus*, Koch, are meant. These states are prevalent in Cheshire, but in the south (Surrey, e.g.) rare. The real plant is very much more slender.

CAREX, Linn.

C. dioica, Linn.

Dioicous Carex.

In bogs and on wet spongy heaths. *P.* May, June. Low grounds. Native. In two hill and two Bucklow stations.

1. Top of Werneth Low, tolerably plentiful; *Gr. Flo.* Staley Holmes; (*Herb. Tinker*), Baker.
2. Baguley Moor; *Wood in Phyt.* Boggy parts of Hale Moss; Knutsford Moor; *Id.* and *Buxt. G.*, also Hale Moss, 1857 and 1868; *Hunt, sp.* Formerly common at Baguley Moor; probably still on Knutsford Moor (the marsh where the targets are); I saw it on Hale Moss in 1872; *Sidebotham*.¹
6. Wybunbury; *Garner, N. H. Staff.* (not recently confirmed.)

C. pulicaris, Linn.

Flea Carex.

In swampy, boggy ground, where the soil is peaty, and occasionally on dry heaths. *P.* May, June. Native. Thin but even distribution.

1. Wood End, Hyde; *Sidebotham, MSS.* (This is rendered "Between Hyde and Apethorne" in *Gr. Flo.*)
2. Baguley Moor; *Wood, Flo.* Bog near the margin of Rostherne Mere; Hale Moss; *Buxt. G.* and *Wood in Phyt.*, also *Hunt, sps.* 1864 and 1857 respectively. Cobbs (a mile west of Grappenhall); *Warr. List.* Margin of the Lady's Pit, Garden Wood, Tabley Park; Pickmere Mere, south, middle, margin.
3. Damp ground near the canal, one mile west of Beeston Railway Station; *Brown.*
4. Plentiful on Bidston and other similar heaths in Wirral; *Dick. Flo.* In the swampy stream valley on the south side of the Thornton Hough road, near to Raby Mill: a small but very productive station for Sedges and interesting marsh plants; *Webb.* The "*Pinguicula* ground," near Raby Mill.
6. Wybunbury; *Garner, N. H. Staff.*
7. In the waste before the cottage behind Lower Peover Heath; Brookhouse Moss, close to *C. limosa*.

¹ I have specimens from Mr. Sidebotham gathered at Baguley in 1843. and at Hale Moss in 1847. He makes no mention of the Werneth Low station. The moor at Knutsford is meant which lies just north of the name "Knutsford" on the Ordnance Map, and Tatton Park.

C. disticha*, Huds.Intermediate Carex.*

By the grassy margin of meres, in ditches, pits, and swampy rank-grown meadows. *P.* June, July. Native. Rare. Chiefly shore and north plain.

2. Near the border of Rostherne Mere, sparingly; *Buxt. G.* and *Wood in Phyt.* Near the S.E. margin of Rostherne Mere, about 200 yards the village side of a trench which runs into the Bollin: search the long grass, say 20 yards from the actual mere-side; Margin of Pickmere Mere on the N.W. side, near a boathouse, 1867, plentiful.
3. In the smaller ditches off Lordship Lane, Frodsham Marsh; Very fine in a field-pit next to the pasture called "Crab-tree Loon" at Little Barrow (where *Cicuta* grows); *Webb.*
4. Ditches below Wallasey; *Dick. Flo.* In the Upper Lang Fields near the Hill Houses, West Kirby, plentiful, 1873; Here and there in open ditches bordering the road from below Grange to Soughall Massie; *Webb.* One tuft by the canal about a quarter of a mile south of Chorlton Bridge.
5. Pit south of Home House, Plemstall; *Mr. Manning.*

C. arenaria*, Linn.Sand Carex.*

On the coast sandhills, the sandy pastures and hedge-cops inland of same, and on friable sandstone ground in the neighbourhood of the sea. *P.* June, July. Native. Fairly diffused on the coast. Shore.

4. Abundant on the coast sandhills; *Flo. Liv., &c.* Off the coast: on Grange Hill; (*Lewis*), *Flo. Liv.* Thurstaston Common; (*Fisher*), *Ib.* Hoylake; Parkgate; New Brighton, &c.; At Wallasey it grows some distance up on the rocks on which the church stands.

C. teretiuscula*, Good.Lesser Panicked Carex.*

On the moss-lands, in trenches and swampy places. *P.* June, July. Native. On three detached mosses in Bucklow, Northwich, and Nantwich respectively. Plain.

2. Seaman's Moss Pits, June 1857, June 1861-64, June 1868; *Hunt, sps.*
6. In a drain on the S.E. open portion of Wybunbury Moss; *Webb.*
7. Brookhouse Moss, 1849; *Sidebotham, sp.* Brookhouse Moss, soon after entering it, in the main trench before you come to *C. filiformis*.

The Hunt Herbarium contains a beautiful range of specimens of the *teretiuscula-Ehrhartiana* series. Their collector has arranged these in different sheets, according as they seem to him to fall under the type or the variety. All are from Seaman's Moss Pits, the dates of collection being from 1858 to 1868. From abundant specimens in this series, which includes the extremes of the range, viz., a strong dense-headed *Carex* like small *vulpina*, and a weaker long and lax-spiked one somewhat like *Kobresia caricinu*, we

may record both type and variety as existent in Hundred 2; but I am free to confess a number of intermediates occur in Mr. Hunt's sheets, which I know not whether to refer to type or variety.

Var. Ehrhartiana, Hoppe.

2. Seaman's Moss Pits, 1842; (*R. Buxton*); *Phyt.* vol. i., and *Buxt. G.* p. 138 (ed. ii.). Specimens given to Samuel Gibson, August 1842 and June 1843, and described by him under the name *C. pseudo-paradoxa* in *Phyt.* vol. i. p. 778, he having previously spoken of it as "a form of *C. teretiuscula* with fruit as in *paniculata*." Seaman's Moss Pits, 1845; *Sidebotham, sp.* Ditto, June 1857-58, 1864, 1868; *Hunt, sp.*
7. Brookhouse Moss, 1849; *Sidebotham, sp.* Brookhouse Moss, Congleton, with the type: part of my specimens hence fall under each name.

The specimens of *Ehrhartiana* most like *paradoxa* were gathered nearer Manchester and out of Cheshire; *Sidebotham*.

Mr. Sidebotham subsequently sent me specimens of the more exaggerated *Ehrhartiana* than the Brookhouse Moss or Seaman's Pit's plant, from Chorlton Fields, near Manchester, gathered in 1845; still even these are nothing like the real *paradoxa*, but are merely *teretiuscula* with rather less continuous spikes somewhat interrupted below.

C. paniculata, Linn.

Greater Panicled Carex.

In marshy and boggy ground, the centre of small pits, damp pools in woods, and the margins of meres. *P.* June, July. Native. Generally distributed.

1. Reddish Vale, nearly opposite Arden Hall; *Buxt. G.* By the water below Disley Railway Station; *Gr. Flo.* Swampy ground under the old river-bank at Newtown New Mills; Pits in the first field past Woodford New Hall coming from the Old Hall; The plantation on the opposite side of the road to the north end of Redes Mere, Capesthorne; *Webb.* Long Pits, near Bramhall.
2. Bog at Rostherne Mere; *Buxt. G.* and *Hunt, sp.* Seaman's Moss Pits; *Hunt, sp.* Old Quay Canal, near Latchford; Tatton Mere; *Warr. List.* A very common *Carex* of my home district: e.g. Lady's Pit; Garden Wood; Serpentine Bridge; Botany Bay; Tabley Lake, &c.
3. Hatchmere; A large field-pit south of Beeston village; Little Budworth Mere.
4. In marshy situations in meadows between Oxton and Woodchurch; *Hall, Flo.* (This includes the Nocturnum station of *Flo. Liv.*) Bidston Marsh; *Dick. Flo.* I do not remember it on Bidston; there is a fair quantity in Hall's locality; *Webb.* Seen several times by the canal between Mollington and Chorlton Bridges.
5. The second field entered by Shay Field Lane above Lea Hall, near Aldford; *Webb.* Field-pit about a mile west of

Saighton; "Moat" pit two miles S.E. of Chester; Field-pit above Lea Hall Farm, near Aldford.

6. Wybunbury Moss; *Webb*. Edge of the wood alongside of the path from The Knowls to Marbury; *Id*.

C. vulpina, *Linn.*

Fox Sedge.

Moist ditches. *P.* June, July. Native. Generally distributed. Personal records in 1, 2, 3, 4, 7; second-hand records in 1, 2, 3, 4, 5, 6.

Not very common in the Manchester district, according to the Floras; my experience S.W. of Manchester is quite the reverse.

C. muricata, *Linn.*

Stout Prickly Carex.

On dry grassy hedge-banks. *P.* June. Native. Thinly diffused through South Wirral, rare and local elsewhere. Plain and shore.

1. Hedge-bank by the roadside about half-way between Stockport and Marple; *Bux. G.*
2. Roadside towards Northwich, fifty yards after passing the Smoker Inn, 1867, 1870; The private road from Aston Chapel to Aston Hall stables.
3. Near Frodsham; (*J. B. Wood*), *Supp. Dick. Flo.* Hedge-bottom on the right-hand side between Alvanley Station and Horns Mill, where *Sison* commences; In a lane leading from Manley Lane direct into Dunham; *Webb*. Roadside near Luddington Hill, two miles N.W. out of Tarporley.
4. Near the Halfpenny bridge at Poulton, rare; (*Skellon*), *Dick. Flo.* Oxton; (*Higgins*), *Flo. Liv.* Hedge-bank on the left-hand side nearing Upton from Sougthall Massie, only sparingly; *Webb*. In fair quantity for a little distance on right-hand side of the road after descending Storeton Hill and before reaching Storeton village; *Brown*. Hedge-bank not far from the Greasby schools going towards Frankby; Sparingly on the right-hand hedge-bank of the road from Poulton Hall to Raby Mere; In a lane between Heswell and the shore; and in a depression where *Iris* grows in quantity in the field next north of "The Scrub" by the coast; In the lane from Lea Hall to the bridge below Mollington Station; *Webb*. In two places in the Queen's (King's) Ferry road, a mile from where it leaves the main-road; *Lewis*. The left-hand hedge-bank about a furlong east of Mollington Station, and again near Backford; Little Mollington; Blacon Point shooting-range; Gayton Lane.
5. The Whitchurch and Tarporley turnpike-road, on the hedge-bank, about a mile north of the bridge over the canal; *Webb, sp.* The Chester to Wrexham road, near Belgrave Lodge; The Greaves lane, north of Tattenhall; S.E. corner of Eaton Hall grounds; The Frodsham road north from Mickle Trafford.

Very local, and generally in small quantity where it does occur. This and *C. divulsa* are often frequent in districts of England where many of our common Cheshire *Carices* are very scarce, *e.g.* Surrey.

C. divulsa, Good.*Slender Prickly Carex.*

On dry shady hedge-banks. *P.* June. Native. In one South Wirral and one Broxton station. Shore.

4. Near the bottom of a high hedge-bank on the left-hand side of the shady part of the lane from Gayton Mill to Gayton, half-way between the two places: at the spot two oak-trees with elder bushes at their base rise from the hedge on either side the way and intermix branches above: in fair quantity, July 1873; *Webb, sp.*
5. The wooded former bank of the Dee, above Chester, about opposite to Heron Bridge.

The Gayton locality is about the northern limit of this species on the west side of Britain. Being such a rarity with us whilst a frequent *Carex* in some other counties, it should not be gathered for lavish distribution.

C. stellulata, Good.*Star-headed Carex.*

Swamps on mosses, on heaths, peaty margins of meres, and rarely in poor moss-grown pastures. *P.* June. Native. Generally distributed. Personal records in 1, 2, 3, 4, 5, 7; second-hand records in 1, 2, 3, 4, 6.

I have so many records that I cannot consistently distribute this *Carex*: once known, it will be found everywhere in the right places. Doubtless to beginners a few definite stations would be useful, for I was myself, when I commenced botany, a year or two before finding it; but the question of distribution and non-distribution is decided in this Flora by the objective frequency, so far as known, of each species, not by the subjective likelihood of its turning up to every beginner.

C. remota, Linn.*Remote-headed Sedge.*

Open hedge- and ditch-banks; seldom growing on the flat. *P.* June, July. Native. Generally distributed. Personal records in 2, 3, 4, 5, 7; second-hand records in 1, 2, 4, 5, 6.

C. axillaris, Good.*Axillary Carex.*

In damp and somewhat shaded open ditches by roadsides. *P.* June, July. Native. Dotted thinly and locally throughout.

2. I have seen specimens fresh from Cotterill gathered by Buxton, but he could never find it again; *Sidebotham*. (Not given as a Cotterill plant in *Buxt. G.*)
3. Over; (*W. Wilson*), *Hook. Br. Fl.* ed. ii. (1830). Ditch-bottom on the left-hand side of Rake Lane (Dunham), fifty yards from the *C. vesicaria* station; *Webb*. The roadside-ditch near the railway, between Bridge Trafford and Dunham.
4. Ditch in a lane a short distance from Ellesmere Port Station, and again by the canal near the place where it is crossed by the railway, 7th June 1873; *Brown and Webb, sp.* (*Note*.—This stands as the first discovery in Wirral; it was next found, a fortnight later, by *Webb, Lewis, and Fisher* in the station I have noted above; and Mr. Webb

subsequently found that south of the Toll-gate it occurs in greater quantity (also on the east side of the road), extending over a length of about a hundred yards, commencing a quarter of a mile from the Toll-gate. In all these places it grows in company with *C. vulpina* and *C. remota*.) In one spot, open ditch on right-hand side, about a hundred yards along Goldworth Lane from Little Stanney; *Newbould and Brown*. Ditch-bottom by the Chester and Parkgate, &c., road, 7 to 7½ miles from former; *Webb, sp.*

5. Left-hand side of road from Milton Green to Waverton Station, nearer the latter; *Lewis*. Ditch between Wet-rains Green and Crewe Hock, near Farndon; *Brown*.
6. Dry ditch on north side of road about half-way between the Canal Bridge (coming from Nantwich) and Ravensmoor Bridge: several large clumps; *Brown*.

I have seen this species now in five English counties, ranging from Sussex to Cheshire, and at least in ten distinct stations. I have always found *C. vulpina* and *C. remota* handy, and in three or four of the stations, having first observed these two in contiguity, I looked till I found *axillaris*: it is by no means the rarity the elder botanists esteemed it.

C. Boenninghausenia, *Weihe*.

Boenninghausen's Sedge.

Apparently in similar situations to *C. axillaris*. P. June, July. Native. Rare. Plain.

1. In a dingle near Capesthorpe Mere; (*Sidebotham*), *Gr. Flo.* The dingle is on the left-hand side of the road leading to Macclesfield, nearly opposite to the mere: the plant grows in very large tufts, associated with *Geum rivale*, is not abundant, and flowers and fruits sparingly: I saw it here in 1870; *Sidebotham*. [In a swampy part of Matley Wood, near Mottram; (*Whitehead*), *R. C. Rep.* 1875, p. 132.]
6. Hedge-bank between Nantwich and Ravensmoor, 3rd August 1874; *Brown, sp.* The more rigid and slender stems, browner, margined glumes, and spikelet-arrangement of this plant of Mr. Brown's make me place it here.
7. Dingle near Brookhouse Moss, 1849; *Sidebotham, sp.*, and also *Gr. Flo.*

C. elongata, *Linn.*

Elongated Carex.

Swampy dingles and heathy trenches. P. June, July. Native. In seven stations, which occur in five districts. Shore (once), hills (once), and plain.

1. Staley Great Wood, 1851; (*R. Buxton and J. Tinker, sp. in Herb. Tinker*), *Baker*.
2. Discovered, May 1841, by R. Buxton in considerable plenty on the swampy banks of Rostherne Mere; (*J. B. Wood*), *Phyt. i.* (1842), p. 199. Old pitstead near Rostherne Mere, 1864; *Hunt, sp.* Holford Mill Bottoms, in some plenty

in several places, especially in the middle of a swampy dingle ascending the brook, say a quarter of a mile from the Mill.

3. Pit-side at Over, 1827; (*W. Wilson*), *Hook. Br. Fl.* ed. ii.
4. Bebbington Heath; (*Higgins*), *Flo. Liv.*
7. Plentiful by the margin of a trench running due south from the bottom of Lower Peover Churchyard. No botanist can miss it here, as might be the case at Holford, the bottoms of the woods there being thick and extensive.

***C. curta*, Good.**

Whitish Carex.

Swamps on mosses and peaty margins of meres. *P.* June, July. Native. Not recorded from shore or Broxton. Thinly diffused through the rest of the county. Chiefly north and mid plain.

1. Bogs, not uncommon; (*Bradbury*), *B. G.* Lindow Common; *Gr. Flo.*
2. Wet bogs, very common; *Buxt. G.* Carrington Moss; *Ib.* and *Hunt, sp.* Baguley Moor; *Wood, Flo.* Knutsford Moor, copiously; Pickmere Mere, west corner, &c., common.
3. In a small swampy hollow in the middle of a large field, near the footpath about half-way between Mouldsworth and Manley; *Brown, sp.* Oakmere; Hatchmere, west side, abundant; Blake Mere, near Cuddington.
6. Wybunbury Moss; *Webb.*
7. Peover Heath, about six yards below *C. pulicaris*, and edging the large pit; Brookhouse Moss.

***C. ovalis*, Good.**

Oval-headed Sedge.

Rank spots in pastures, heaths, roadside wastes, &c. *P.* June. Ascends to 1750 feet. Native. Generally distributed. Personal records in 1, 2, 4, 7; second-hand records in 1, 2, 4, 6.

(*C. glauca*, *hirta*, *ovalis*, *panicea*, and *vulgaris* are about the commonest *Carices* in Cheshire, their frequency being in the order mentioned.

***C. atrata*, Linn.**

Misnomer?. Old record.

1. On Higher Edge and Wild Bank; *B. G.*

***C. stricta*, Good.**

Erect Sedge.

On the margins of large inland lakes. *P.* May. Native. In one Bucklow and two Eddisbury stations; also Wirral?. North plain, at least chiefly.

2. Rostherne Mere, May 1868; *Hunt, sp.* (Fine and exactly typical.) Other gatherings May 1857. (Dr. Boott confirmed the Rostherne specimens many years ago.) The large form of *C. vulgaris* grows in the same place, and was formerly called *C. stricta*; *Sidebotham*. Rostherne Mere, 1842; *G. Crozier, sp.* This specimen was kindly given me by Mr. Sidebotham.

Confusion has arisen from Mr. Hunt, as a young botanist, distributing the *uliginosa* form of *vulgaris* from Rostherne as *C. stricta*, the real *C. stricta* being there all the time. I fell into the same error when a beginner: going there to see it, I chanced on the more abundant *uliginosa*, which satisfied me as *C. stricta* until Dr. Syme showed me my error, which had luckily not gone beyond my own herbarium.

3. Hatchmere, west side, abundant; Swamp near railway, Newchurch Common.
4. Wirral, 1837; *Watson, sp.* On which specimens Mr. Watson notes in 1875—"I think these are *stricta*, but my two specimens are the tops only, nothing but bracts and spikes. As far as they go they agree with a Crosby full-length specimen." I have seen them, and Mr. Watson has excellently put the exact state of the case.

C. acuta, Linn.

Acute Sedge.

Trenches in salt-marsh meadows; sides of canals. *P.* May, June. Native. A few shore stations. Rare in the plain.

2. Margin of Rostherne Mere, plentiful; *Buxt. G.* and *Wood in Phyt.* (This statement requires examination.) Plentiful on the banks of the Mersey near Runcorn; (*J. B. Wood*), *Supp. Flo. Dick.* Swampy ground, Becket's Wood, Aston.
3. The drain by the side of the lane from Thornton Church leading on to the moors; In the meadow-ditches off Moor-ditch Lane, Frodsham Marsh; *Webb.* By the Gowy under Great Barrow.
4. By the Oxton to Woodchurch pathway, on the Oxton side of the Fender; (*Webb*), *Flo. Liv.* In the Dee and Mersey Canal, between Moston Bridge and Mollington railway bridge: the *Sagittaria* grows actually among it in some places; The Puddington end of the swamp on the marsh south of Burton Point.
5. Poulton Meadows; (*Bowman*), *N. B. G.* Gowy side at Stapleford Mill, &c.; Dee side, "The Meadows," Chester.

I have only seen this common southern *Carex* a few times in Cheshire; it is more frequent as we approach the sea.

C. vulgaris, Fries.

Common Sedge.

Sides of pits, and swampy ground generally in the lowlands, but also on dryish heaths and upland moors. *P.* May, June. Ascends to 1300 feet. Native. Generally distributed. Personal records in 1, 2, 3, 4, 5, 7; second-hand records in 1, 2, 4, 6.

Var. B. uliginosa.

2. S.E. margin of Rostherne Mere; see also *C. stricta* and *C. vulgaris*, a reference given because all three names are quite capable of being interchanged.
3. [Pit near Oakmere; (*C. Bailey*), *R. C. Rep.* 1879, p. 73.]
4. At Lingham, near Leasowe; *Brown.* The north margin of a

piece of water alongside Great Meols Railway Station ;
B. M. Watkins and Webb, sp. Pit between Hale Wood
 Farm and Willaston ; *Brown, sp.*

C. glauca, Scop.

Glaucous Sedge.

Bare and grassy lane-sides, by pits, steep and hilly banks, and a variety of other situations very different in character. *P.* Late April, May, June. Ascends to 1750 feet. Native. Generally distributed. Personal records in 2, 3, 4, 5, 7 ; second-hand records in 1, 2, 4, 5, 6.

C. limosa, Linn.

Marsh Sedge.

On the worst portions of mosses. *P.* June. Native. On mosses in the plain ; two localities.

2. Sparsely on the most sphagnum portion of Knutsford Moor ; first noticed there in 1870.

7. Brookhouse Moss, where it was discovered by Mr. E. J. Wilson ; *Gr. Flo.* and *Buxt. G.* Brookhouse Moss, near Congleton, at the N.E. corner of a square wet patch of about an acre in extent in the most spongy piece of the moss in company with *Orchis incarnata*, 1867. *N.B.*—I only saw it in this one spot, and it did not occupy above three square yards, though probably seventy or eighty specimens were growing there : see *Carex filiformis*.

The Knutsford plant differs from the Brookhouse one : the former is exactly typical *limosa* ; the latter getting on to *C. irrigua*.

C. pilulifera, Linn.

Pill-headed Sedge.

On heaths, generally growing at the borders of the furze clumps, usually on high ground, but also occurs on the flat. *P.* May, June. Native. Thinly distributed throughout.

1. Alderley ; *Buxt. G.* By the side of Crowden Brook, about half a mile up the valley.
2. Baguley Moor ; *Wood, Flo.* Hale Moss ; *Buxt. G.* and *Hunt, sp.* Cobbs (a mile west of Grappenhall) ; *Warr. List.* Knutsford Heath.
3. Overton Hill, fine ; *Brown and Lewis.* Fine along the sandy summits of Peckforton Hill ; Roadside and pathside banks, Delamere Forest, frequent ; The west side of Helsby Hill ; Newchurch Common ; Fish Pool, Delamere.
4. Wirral ; (*Watson*), *Hall, Flo.* Bidston Heath ; *Dick. Flo.* Oxtown Heath ; *Flo. Liv.* Bromborough ; (*Fisher*), *Ib.* Heswell Hills ; (*Brown*), *App. Flo. Liv.* Frequent on our hilly heaths ; *Webb.*

5. Bickerton Hill.

Common enough, I suspect, on suitable heaths and high dry ground.

C. præcox, Jacq.

Spring Sedge.

In poor and barren pastures, and road- and brook-side banks. *P.* May. Native. Thinly distributed throughout.

1. Frequent in the hilly districts in the neighbourhood of Manchester ; *Buxt. G.*

2. Near Cotterill Wood; Near the borders of Roosterne Mere; *Buxt. G.* Dunham Park, *Gr. Flo.* Hedge-banks near the Vicarage, Bowdon; and hedge-banks, Ashley Heath; *Hunt, sp.* Common at Tabley: *e.g.* In the turf of the park just where "Hall" is written on the Ordnance Map; The greatest mass I ever saw was in Tatton Park, near the Old Hall, where the turf was covered; Much finer in meadows by Peover Brook, just under Trout Hall, on the dry bluffs above the water; Knutsford Racecourse, &c.
3. On the high hedge-banks in the lane called "Common Side," between Helsby Hill and Alvanley Cliff; *Brown.* On the lower ground under the Peckforton Range; Banks near Beeston Castle.
4. Bidston Heath; *Hall, Flo.* Thurstaston; (*Fisher*), *Flo. Liv.* Banky pastures near West Kirby; *Webb.* Rising ground by the stream at Overpool before it enters the grounds of Hooton Hall; *Brown.* The field-bank above the *C. pulicaris* ground, Raby Mill; *Brown and Webb.* I have never seen it on Bidston Heath, where it is stated to be abundant, but believe it is thinly distributed through the Hundred in scantily-clothed stiff pastures and banks; *Webb.*
5. Not far from Broxton village.
7. On the Northwich side of Peover Brook, a quarter of a mile above Trout Hall; Brereton Heath; A dry bank near Price's Cottage, near Peover Heath.

Common, but much overlooked; on this account I give distributing notes.

C. pallescens, Linn.

Pallid Sedge.

Thickets and thinly-wooded knolls. *P.* June. Native. Fairly frequent in the north plain.

1. Reddish Vale, upon the brow-side near Reddish Mill; Rough declivity near the Goyt, about two miles below Marple Aqueduct; *Buxt. G.* Bredbury Wood; *Sidebotham, MSS.*
2. Near Burley Hurst Wood, Mobberley; *Gr. Flo.* Meadows, Bowdon, and woods near Cotterill Wood; *Hunt, sp.* I found a few plants in 1865 at N.W. corner of the Black Pit in Tabley Garden Wood; Also in 1867 at a short distance from the preceding station; Pickmere and Plumbley in the edges of the field where the *Habenaria chlorantha* grew, 1867; Holford Mill Bottoms.
5. Ditch-side, "The Meadows," Chester, with *Comarum*.

C. panicea, Linn.

Carnation-leaved Sedge.

Roadside wastes, pit-sides, damp heaths, but generally in a bare piece of ground. *P.* Late May, June. Native. Generally distributed. Personal records in 1, 2, 3, 4, 5, 7; second-hand records in 1, 2, 4, 5, 6.

C. pendula, Huds.

Pendulous Sedge.

Dense and sloping woods with water usually near. *P.* June. Native. Thinly distributed, chiefly in the north plain.

1. River-side above Staleybridge; (*Bradbury*), *B. G.* Marple

Wood; Left bank of the Goyt below Marple Wood;
Buxt. G.

2. Cotterill Wood; *Wood, Flo.* Abundant in the steep wood by Ashley Mill; *Gr. Flo.* Burley Hurst Wood, Moberley; Woods at Morley; *Holland.* Woods, Bowdon, 1864; *Hunt, sp.* Acton Grange; *Warr. List.* Aston Woods (near the Weaver); (*J. Harrison*), *Supp. Dick. Flo.* By the side of Waterless Brook where it crosses the Manchester Road near the White Lodge, Tabley, in a wood at intervals along the brook-side: the first root close to the road; Fine plants close to the White Lodge itself.

7. In several places in woods near Brereton, Astbury, and Congleton; *Sidebotham.*

Seems probably rarer than it is, as I only stumbled upon my station by walking through the wood in winter and marking a root. Woods are so rigorously preserved in Cheshire that many sylvestral plants escape notice. This is a truly sylvestral species.

C. strigosa, Huds.

Starved Carex.

In woods. *P.* Early Summer. Native. Rare. Hills and north plain.

1. Wood by the side of the Goyt near Marple; Reddish Wood; A little below Reddish Mill; *Buxt. G.* and *Sidebotham, MSS.*
2. Cotterill Wood, on the borders of the brook about half-way up the wood. 1840; *Wood, Flo. App.* and *Hunt, sps.* 1857, 1864, 1868 (frequent and characteristic); also *Sidebotham, sp.* 1845.
4. Formerly near the Halfpenny Bridge, Poulton; (*W. Skellon*), *Flo. Liv.* I cannot help fancying there is some mistake here: there is no likely place in the neighbourhood, and if the record is based on any specimen in Dr. Dickinson's herbarium, he must have had it prior to the issue of his Supplement, where no mention is made of the plant; the locality and same authority, moreover, is used by him for *C. muricata*, which is much more probable; *Webb, MSS.*

C. sylvatica, Huds.

Wood Sedge.

In open woods, and damp bush-covered banks of streams, &c. *P.* June. Native. Generally distributed. Personal records in 2; second-hand records in 1, 2, 4.

C. lævigata, Sm.

Smooth Sedge.

In swampy newly-cut copses and moist gulleys, usually on upland ground. *P.* June, July. Ascends to 800 feet. Native. Rare. In one north plain, one coast, and four hill stations. Chiefly hills.

1. Rough declivity near the Goyt, about two miles below Marple Aqueduct; *Buxt. G.* Bredbury; *Sidebotham, MSS.* Staley Brushes, June 1865; *Hunt, sps.* (fine, numerous and characteristic specimens). Swampy wood at the head of the north branch of the stream, that, after the course of a mile, passes through Furness Vale; *Webb.*

2. Field above Rostherne Mere, near the village; *Buxt. G.*
4. Amongst some bushes on the field-edge of the swampy stream valley on the south side of the Thornton Hough road, near Raby Watermill, 1873; *Webb, sp.*
7. Congleton; *Gr. Flo. (qy. binervis?)*.

C. binervis, Linn.*Green-ribbed Sedge.*

On rocky heaths and moorlands; exceptionally on lower heath ground near the coast. *P.* May, June. Ascends to 1650 feet. Native. Frequent on hilly ground.

1. Alderley Edge; *Buxt. G.* and *Brown*, 1873. Werneth Low and neighbourhood in various places; *Sidebotham, MSS.* The roadside between Jenkin Chapel and Goyts Bridge, and on the adjoining moorlands; Banks rising from Shooters Clough above Castage; Ascends to the top of Shutlings Low; *Webb.* Crowden, ascending the valley near where the two brooks part.
3. Peckforton Range, at the top, among gorse bushes, sparingly; The N.E. border of Oakmere.
4. Bidston Heath; *Dick. Flo.* Oxton (Heath); *Flo. Liv.* Heswell Hills; (*Brown*), *App. Flo. Liv.* The south side of Eastham Wood; (*Webb*), *Id.*
5. Descending Bickerton Hill towards Broxton village, near a fir plantation and small reservoir.
7. Congleton Edge; *Webb.*

C. distans, Linn.*Distant-spiked Sedge.*

In grassy salt marshes and damp rushy pasture ground near the sea. *P.* June. Native. Confined to three or four stations in Wirral Shore.

4. Wallasey Pool (with four stigmas); (*S. Gibson*), *Phyt.* i. p. 778. On the south side of Tranmere Pool; *Hall, Flo.* (now destroyed). Bidston Marsh; *Dick. Flo.* Still there, 1873; *Webb.* Drain cuttings by the road from Shotwick to the Ferry, but on the Flintshire side of the boundary-line; *Brown.* Bidston Marsh, following the pool towards Leasowe, amongst the grass about 100 yards from the stepping-stones and 20 yards from the water-edge; Sparingly on the land side of the swamp south of Burton Point; The shooting-range near Blacon Point.

The *C. distans* of Mr. Bradbury in *B. G.* will be *C. binervis* (not separated in his time). It is less easy to allot the *C. distans* given by Mr. Caley as "common on bogs about Manchester" in *With.* Arr. ed. ii. (1801).

C. fulva, Good.*Tawny Sedge.*

Swampy places on heaths, and spongy ground in small lowland valleys, also on the high ground near spring-heads. *P.* June. Native. In two hill, one shore, and three plain stations.

1. Pasture field, Stocks Farm, Staley; (*Herb. Tinker*), *Baker.* Wood End near Hyde, 1847; *Sidebotham, sp.*

2. Baguley Moor; *Wood in Phyt.* Hale Moss; *Buxt. G.* and 1857-68, *Hunt, sp.* Stretton Moss; *Buxt. G.* ed. ii.
4. In the swampy stream valley on the south side of the Thornton Hough road, near Raby Watermill; *Webb, sp.*

C. extensa, Linn.

Long-bracted Sedge.

In grassy salt marshes, and the bare coast grounds adjoining. *P.* June. Native. In one coast station. Shore.

4. Tolerably plentiful on the north side of Bromborough Pool, near the Mersey; *Hall, Flo.* (*qq.* not gathered recently?). Wallasey Pool near Poulton; *Dick. Flo.* (now destroyed). I have seen it in plenty at Dungeon Marsh on the Lancashire side, which lies as high up the river as Ince on the Cheshire coast, but I have not myself found it on Cheshire ground bordering the Mersey; *Webb.* Two tufts on the shore side of the swamp immediately south of Burton Point, near its termination under the rocks.

C. flava, Linn.

Yellow Sedge.

Bare heathy ground where water has stood, mere-sides and peaty pit margins, damp depressions in the sandhills, and (for *genuina*) sphagnum parts of mosses. *P.* June. Ascends to 1750 feet. Native. Thinly distributed.

Var. *a. genuina.*

6. Wybunbury Bog, 13th June 1874; *Fraser, sp.*

This is the only genuine "*flava*" I have seen gathered in Cheshire ground: it is evidently very rare with us, and years ago Buxton noted its absence from the Manchester district (*vide Buxt. G.* p. 140). Mr. Webb gathered a remarkable plant at Capenhurst, July 1873, but this, though unusually large, still seems to be *lepidocarpa*.

Var. *β. lepidocarpa, Tausch.*

1. Wet patch of peaty uncultivated ground between Close Farm and Jenkin Chapel; Ditch by the roadside near the "Cat and Fiddle," *Webb.* Staleybridge Brushes.
2. Common about Manchester, both large and small forms of this variety; *Buxt. G.* Seaman's Moss Pits; Timperley, 1864; Hale Moss, 1857; *Hunt, sp.* (noting that they belong to the *var.* of Buxton). Edge of Lady's Pit, Garden Wood, Tabley Park; and many other spots in my home district.
3. Oakmere, 1873; *Bickham, sp.*; Margin of Hatchmere; Fish Pool, Delamere; Newchurch Common.
4. A frequent plant in damp hollows among the sandhills; *App. Flo. Liv.* In a grassy lane parallel with the railway for half a mile between Hadlow Lane and Neston stations; In a swampy pit where the field footpath commences half a mile SW. of Capenhurst to the high-road; *Webb.* In a large circular depression in the sandhills opposite, but a

- little W. of, where the road through Wallasey abuts on the coast; The "*Pinguicula* ground," near Raby Pool.
5. Swampy places at base of Bickerton Hill.
 6. By the pits on some waste ground at Clannor Heath, near Wybunbury; *Webb*.
 2. Near *C. curta* behind Lower Peover Heath; On Brookhouse Moss near *C. limosa*.

C. Oederi, Ehrh.*Oeder's Sedge.*

- Damp depressions on the sandhills and water-broken gravelly pasture ground at the edge of meres. *P.* June. Native. Rare. Chiefly north plain and shore.
2. In stony and grassy places on the border of Mere Mere; *Buxt. G., Hunt, sp.* (1869), and *Sidebotham, sp.* (1870).
 4. Hall may have distinguished this, as he specially avoids entering it; still as it has been thoroughly mixed up with *C. lepidocarpa* in the Liverpool Floras, it is impossible to give localities. Mr. Hunt gathered a beautiful set of specimens of true *Oederi* at Southport, comparison with which assured me of the correct naming of my Wirral specimens. Three specimens gathered intermixed with *lepidocarpa* (to which refer) at Wallasey sandhills where the road through that village meets the coast, near the *Scirpus pauciflorus* station.
 5. [Edge Green; *A. H. Wolley Dod.*]

C. filiformis, Linn.*Slender Sedge.*

- In the water of trenches which cut mosses at their worst parts, and near or in meres. *P.* June, July. Native. Rare. Chiefly north and mid plain.
2. Stretton Moss; (*Dr. Wood*); *Buxt. G.* ed. ii. (probably *Wilson's "Cheshire"* station in *Hook. Br. Fl.* ed. iii. (1835)).
 3. Oakmere; (*G. E. Smith, sp.*), *Topog. Bot.* and (*Bot. Soc. Lond. duplicate*), *Watson. Achmere*, July 1865; (*Robinson, sp.*), *Hunt, Hb.* Waterholes in the swamp N.W. of Hatchmere.
 7. Brookhouse Moss; *Sidebotham, MSS.* and *Buxt. G.* Brookhouse Moss near Congleton, growing there plentifully for sixty yards or so in the middle of the water of the main trench which divides the centre of the moss, not 300 yards from the road, 1867.

I saw a specimen of this from Mr. Glasspole's Herbarium labelled "Newchurch Common," collected about forty years ago. I failed to find the plant when I examined the small remnant of its mosses and swamps this year [*qy.* 1873?].

C. hirta, Linn.*Hairy Sedge.*

- In poor pastures, often largely modifying the turf, roadsides, pit edges, by canals, damp sandhills, hollows, &c., but generally avoiding ericetal and sphagnum situations. *P.* June, July. Native. Generally distributed. Personal records in 2, 7; second-hand records in 1, 2, 4, 5.

C. Pseudo-cyperus, Linn.*Cyperus-like Sedge.*

In rank-grown shallow pits, constituting largely the tangle at their sides, and often spreading in more isolated tufts into the centre of the water. *P.* June, July. Ascends to 300 feet. Native. Fairly general throughout.

1. "Common" in the neighbourhood of Manchester, but no stations are mentioned in the Floras that deal with this Hundred. Pit in the field opposite to the road entrance to Yew Tree Farm, half a mile N.E. of Woodford; *Webb*.
2. Sale; Altrincham; Bowdon; *Buxt. G.* Rostherne Mere; Hale Moss; and in an old pitstead at Bowdon; *Hunt, sp.* Mobberley; (*Holland*), *Phyt.* iii. p. 865. In many pits in Tabley Park, notably in one in the Belt Wood near Tabley Lane End; In the Round Wood near the Rinks Pool; In the "Seythe" Pit, 300 yards south of the House; In a pit behind the Rinks on Flitto Gate Farm, &c.; Field-pit near Cotterill Clough.
3. Field-pit adjoining Rake Lane, near Dunham; *Webb*. Pits near Peek Mill, Dunham; Pit near Hapsford Hall Farm, Helsby; Spurstons, S.
4. Pits near Seacombe; (*Watson*), *N. B. G.* Very common about Woodside (Birkenhead), *Hall, Flo.* Bidston; Bebbington; Bromborough; *Dick. Flo.* Storeton; Landican; Willaston; About Hargrave Hall in nearly every pit; *Brown*. Thornton Hough; West of Capenhurst; *Webb*.
5. Field-pit near Tattenhall village; *Lewis*. Pits about Mickle Trafford; Guilden Sutton; Pits between Waverton and Chester, via Stapleford Mill and Christleton; Pits between Farndon and Barton; *Brown*. Watercourse near the railway, between Saltney and Lache Eyes; Cheaveley, Crooked Dee; Saighton. [By most ponds in the Edge district; *A. H. Wolley Dod.*]
6. Wybunbury Bog; *Thompson*. In a field-pit adjoining the road between the Toll-gate and Foxes Bank, on the road from Hankelow to Doddington; *Webb*.

This ascends in Britain no higher than South Lancaster and Yorks. It is a characteristic and seldom absent plant of the typical Cheshire marl-pit, and seems confined to the low levels of the county. Strange that so near its northern limit as it is with us it should be so abundant and widely diffused.

C. paludosa, Good.*Pond Sedge.*

At the sides of meres and the larger pits; sides of canals; does not mind shade. *P.* June. Native. Generally diffused inland, but becoming rare coastwards and in the south plain. Chiefly north and mid plain.

1. In the neighbourhood of Reddish Mills, plentiful; *Buxt. G.* and *Sidebotham, MSS.* Ditch at beginning of footpath, alongside the railway from Northenden to Gatley.
2. Rostherne Mere, abundant; Hale Moss, plentiful; *Buxt. G.*

and *Hunt, sp.* Swamp in Burley Hurst Wood, Mobberley; *Gr. Flo.* Very common: copiously fringes Pickmere Mere; Tabley Lake; In all the Tabley Park pits; Copiously round the Island Wood in Tabley Moat; Holford Mill Bottoms, very abundant.

3. Damp ground by the canal, about one mile west of Beeston Railway Station; *Brown.* Canal-side, near Horton's Mill, N.W. of Beeston Station.
4. Upton Meadows; (*Dr. Dickinson*), *Flo. Liv.* (No such record by the Doctor himself that I can find.) In a boggy field, through which the footpath passes from the shore at the Old Quay to Neston, along with abundance of *C. hirta*; *Webb, sp.*
7. From Peover Mill ascending the brook; About Siddeley's Leasehold, Lower Peover.

In the south you get *C. riparia* and *C. acuta* thrice to once getting *C. paludosa*. In Central Cheshire the latter is much the commonest of the three. The specimens in *Hunt Hb.* labelled *C. riparia* seem to me fine *paludosa*.

C. riparia, Curtis.

Bank Sedge.

In trenches on low fields near the coast and the margins of meres. *P.* June. Native. Rare and very local in the north plain, probably commoner coastwards.

2. Margin of Rostherne Mere; *Wood in Phyt.* and *Bux. G.* Acton Grange; *Warr. List.* The north side of the trench at the extreme western margin of Pickmere Mere (it grows there with the *C. paludosa*); Banks of the canal between Halton and Moore.
3. Marshes, Frodsham: *Hunt, sp.* The drain by the side of the lane from Thornton Church to "The Moors;" In the drains by Moorditch Lane north of Frodsham; *Webb.* Pits near Manley Lane coming from Mouldsworth; *Brown, sp.* By the Gowy, S.E. of Guilden Sutton.
4. Plentiful in a ditch between Oxton and Woodchurch; *Hall, Flo.*, and northwards in the Upton Meadows; (*Dr. Dickinson*), *lb.* In a large pond by the road between Bidston and Moreton, and in the Fender and the smaller field-drains in that neighbourhood; *Webb.* Field-ditches between Blacon Point and the shooting-range.
5. In a wide drain close to Dodleston Village; *Brown.* The Watercourse, Shay Field Lane, near Handley; Pulford; Gowy Side, Guilden Sutton and Stapleford Mill; Dee-side, "The Meadows," Chester; Pit in first field above Lea Hall Farm, near Aldford.

C. riparia, as rare in my home district as *paludosa* is common, appears to be common on the coast and rare inland, while *C. paludosa* is just the reverse. It is noticeable that the large Cheshire meres are more sub-littoral in their vegetation than the surrounding districts. Pickmere produces *C. riparia*, *Sagina nodosa*, and *Triglochin palustre*.

C. ampullacea, Good.

Flask Sedge.

In trenches on mosses, pit-, mere-, and brooksides. *P. May*, June. Ascends to 500 feet. Native. Fairly distributed throughout.

1. Borders of the mere below Disley Railway Station; *Gr. Flo.* Alderley Park; *Ib.* and *Hunt, sp.* Pit near the East Lodge of Capesthorpe Park; *Webb.*
2. Hale Moss, *Wood, Flo.* and *Hunt, sp.* Margin of Rostherne Mere, abundant; Pits about Bowdon; *Burt. G.* and *Hunt, sp.* Stretton Moss; *Warr. List.* General in my home district: *e.g.* In a pit called the "Scythe Pit," off David's Hut Firs, 300 yards due south of Tabley House; Very fine by the margin of Peover Brook just north of Holford Mill Bottoms; Knutsford Moor; Pit near the railway, east of Seaman's Moss Bridge.
3. The prevalent *Carex* by the northern margin of Oakmere; Swampy ground at Hatchmere; Fish Pool, Delamere; A large field-pit south of Beeston village; Blake Mere, near Cuddington; Swamp on Newchurch Common adjoining the railway.
4. Ponds and marshy ground near Birkenhead Park, scarce; *Hall, Flo.* and *Dick. Flo.* In a swampy pit in what was a brickfield N.E. of Claughton village, (this is the only station I can think of); *Webb.*
5. Tattenhall; *Lewis, sp.* In a field-pit between the canal at Waverton and Green Looms; *Brown.* [Common in the Edge district; *A. H. Wolley Dod.*]
6. Wybunbury Moss; *Webb.*
7. In the trench due south from Lower Peover Churchyard, plentiful; The Northwich side of the brook above Holford; Plentiful in the trenches of Brookhouse Moss.

Var. β. involuta, Bab.

Native. Information imperfect.

2. "There grows on Hale Moss, a variety of this species (*i.e.* *C. ampullacea*, Good) with narrow involute leaves, and with fruit resembling that of *C. vesicaria*; but it has not the acute angles on the stem, nor the roughly carinated leaves which that species possesses."—*Burt. G.* (1849). Hale Moss; (*J. Sidebotham*), *Bab. Man.* ed. ii. (1847), *Hunt, sp.* and *E. C. Rep.* 1864; also *Bickham*, 1868, *vide Watson, Hb.* and *Sidebotham*, 1872. Still there 1873; *Bickham, MSS.* Holford Mill Bottoms, and one good clump in the open by the brookside; Knutsford Lower Moor (with *ampullacea*); Rinks Pool, among the margin reeds, and one or two other places, one being a pit in Pickmere (see *J. of B.* ix. p. 9).
3. North-west margin of Oakmere; (*C. Bailey*), *Syme, E. B.* x. p. 170.
7. Congleton; (*E. Wilson*), *Bab. Man.* ed. ii.

This sub-species will prove, I believe, widely, though perhaps nowhere abundantly, diffused through the county.

Qy. Is this the plant referred to by Sam. Gibson in *Phyt. i.* p. 366, as "*C. ampullacea* var. *longicarpa* (mihi), . . . found at Hale Moss: differs from the common state of the plant in the fruit being much longer in proportion to its breadth"?

Mr. G. E. Hunt sends from the Hale Moss station a range of specimens from which I have drawn up the following description. Root rampant; stems a foot to a foot and a half high, slender, with obtuse angles. Leaves glaucous, channelled, only a line or rather less wide, flat or involute at the edges. Bracts leaf-like. Male spikes usually two. Fertile spikes one or two, erect, sessile, or slightly stalked; glumes lanceolate, acute, or apiculate, deep chestnut brown with a green mid-rib. Fruit pale green, ovate, narrowing gradually upwards into a beak which is about half as long as the fruit, the spike being $1\frac{1}{2}$ to $1\frac{3}{4}$ inches long, and the fruit $\frac{1}{8}$ of an inch broad by 2 to 3 lines long, and even when ripe erecto-patent only. It seems to me that Mr. Hunt is right in referring the plant to *ampullacea* rather than *vesicaria*. The only appreciable difference between *involuta* and *ampullacea* is in the fruit, which in the latter is sub-globose and narrowed into the beak suddenly, so that the lower fruits spread almost at right angles from the axis when fully ripe. In *C. vesicaria* the stems are scabrous and acute-angled, the leaves flat and from two to three lines broad, the fruits fewer in number in a spike, and considerably larger than those of the other two, for they measure an eighth of an inch broad by a quarter or upwards long, the beak being from one-third to one quarter as long as the rest of the fruit. See *E. C. Rep.* 1864.

C. vesicaria, Linn.

Bladder Sedge.

In trenches on mosses, pits, meres, and brooksides. *P.* May, June. Ascends to 500 feet. Native. Here and there, in north and mid plain chiefly.

1. Borders of Disley Mere with *C. ampullacea*; Borders of Radnor Mere, Alderley Park; *Gr. Flo.*
2. Fringing the woods at Mere Mere; *Buxt. G.* and *Hunt, sp.* Rostherne Mere; *Sidebotham, MSS.* and *Hunt, sp.* Not so common as *C. ampullacea*, but not rare: Pickmere; "Scythe Pit," Tabley Park; All round the Rinks Pool; Flitto Gate Farm pits.
3. By the drain that passes under the roadway of Rake Lane, about a mile N.W. of Dunham; *Webb, sp.*
4. Tranmere; (*Dr. Dickinson*), *Flo. Liv.* (Not recorded by the Doctor himself, and I do not know the source of this record, which is the only one for Wirral.)
5. By the pool in the south part of the "Meadow Plantation," Eaton Hall grounds. [Pond near Carden Green; *A. H. Wolley Dod.*]
7. Lower Peover, in the Church ditch.

GRAMINEÆ.

Panicum Crus-galli, Linn.

Casual.

2. On a dunghill in the lane leading from Trout Hall, Plumbley, towards the railway.

P. capillare?, L.

Casual.

1. Ballast; from mill refuse at Micklehurst; *Baker and Webb*.

Setaria viridis, Beauv.

Casual.

3. Gathered by a lady on an excursion of the Liverpool Naturalists' Field Club at Frodsham; reported herself from the Marshes, but more likely from borders of sandy cultivated fields at their margin; (*S. Fisher*), *L. N. J.* p. 177, Oct. 1867. Frodsham: introduced with farm seeds (*Robinson*), *Flo. Liv.*
4. On ballast at Birkenhead in 1871; (*Brown and Fisher*), *Flo. Liv.*
5. Narrow lane leading from the high-road to the corn-mill at Tattenhall village, 1874; *Lewis, sp.*

[S. glauca, Beauv.

Casual.

1. Among corn-mill refuse; (*J. Whitehead*), *R. C. Rep.* 1875, p. 142.

ANTHOXANTHUM, Linn.

A. odoratum, Linn.*Sweet Vernal-grass.*

In meadows, pastures, open or cleared woods, hedge-banks, and about the mosses. *P.* May and until Autumn. Native. Generally distributed. Personal records in 1, 2, 3, 5, 6, 7; second-hand records in 1, 2, 3, 4, 5, 6, 7.

A. Puellii, Lec. & Lem.

Casual.

2. Found by Mr. Britten in 1872 near Mobberley: the specimens laid by as a curious form of *A. odoratum*, and distinguished in 1874 as the above, subsequent to the determination of this species in Hampshire by Mr. F. Townsend.

The Cheshire specimens grew on a bank, which, with the adjoining field, had five years previously been broken up and sown with bought grass seeds. For the present, therefore, I can only look upon this as a casual introduction into the county, and it will be interesting to know if it holds its ground, and whether our climate admits of its reproduction and spreading. For full particulars consult Trimen in *J. of B.* iii. N.S. p. 278, and Townsend in the same, iv. N.S. p. 1, where one of the Cheshire specimens is figured.

DIGRAPHIS, Trin.

D. arundinacea, Trin.*Reed Ribbon-grass.*

In wet ditches, on the banks of streams in swampy woods, around ponds, and in other similar situations. *P.* June, July. Native. Generally distributed. Personal records in 1, 2, 3, 6, 7; second-hand records in 1, 2, 3, 4, 5, 6.

***Phalaris canariensis*, Linn.**

Casual.

On rubbish heaps and in and about the gutters of roads; also in "cultivated fields" according to the Manchester Floras. Mr. Hunt gathered it on rubbish at Broadheath; I did so at Four Lane End, Tabley.

[*P. minor*, Retz.]

Casual.

1. Among corn-mill refuse, Staleybridge; (*J. Whitehead*), *R. C. Rep.* 1877, p. 252.]

[*P. paradoxa*, L.]

Casual.

1. With the last; (*J. Whitehead*), *l.c.*]

ALOPECURUS, Linn.***A. agrestis*, Linn.***Slender Foxtail-grass.*

An accidental introduction amongst sown grasses and grain crops, and not established with us. *A.* Early Summer to late Autumn. Casual, hardly colonist. Three widely-separated records.

1. In a meadow at Staleybridge; *Buxt. G.*
2. I have found this on farms at Birken Heath, Mobberley, in light, poor soil: perhaps introduced with seed, but a very probable situation; *Holland.*
4. Frequent in brickfields about Woodside, and not uncommon about Grange Land Marks, Formby; (*W. Skellon*), *Dick. Flo.* This appears in *Flo. Lin.* as "About Grange Landmark (Cheshire), W. S. in D.," and constitutes the only Cheshire record of the Liverpool Floras.

In *N. B. G.* we find this record, "Cheshire, *G. Gordon*, *MSS.*" The plant cannot be considered native in Cheshire: it seems to occur seed-brought now and then, much as does *Crepis setosa*.

A. fulvus*, Sm.Short-awned Foxtail-grass.*

The borders or strands of meres. *P.* July (*Buxt. G.*). Native. Rare. Mid plain.

2. Rostherne Mere; (*J. Sidebotham*), *Lowe, Brit. Gr. tab. v. B.* Border of Mere Mere, plentiful; *Buxt. G.*
3. Oakmere; *Bailey, sp.* July 1868, and *Comp. Cyb. Brit.* p. 614. The margin and bed of the Fish Pool, Delamere.

I have not found it at Mere Mere, and Mr. Hunt's specimens of *Alopecurus* from this place, though the form of *A. geniculatus* which resembles *fulvus* most, are neither it nor labelled as such.

A. geniculatus*, Linn.Kneed Foxtail-grass.*

In surface drains, the borders of cattle-ponds, the depressed part of wastes and fields where water is apt to stagnate, in ditches, &c., and occasionally in waste pastures. *P.* Summer. Ascends to 1000 feet. Native. Generally distributed. Personal records in 1, 2, 4, 5, 7; second-hand records in 1, 2, 3, 4, 6, 7.

A. bulbosus, Linn.*Bulbous Foxtail-grass.*

In salt-marsh pasture-land, on the hard, broken borders of trenches and plashes, and in cattle-trodden places where water has lain. *P.* Early Summer. Native. Rare. Shore.

2. Specimen figured "gathered in Cheshire by Mr. J. Sidebotham;" *Lowe, Brit. Gr. tab. v. A. (1858)*. Sent by Dr. Windsor from the Mersey side, between Runcorn and Warrington, the specimens gathered by the late Mr. Buxton; *E. C. Rep. 1865*. I have certainly seen specimens of this, gathered near Warrington by Dr. J. B. Wood; *J. G. Baker*. Richmond Marsh; The north river-border of Norton Marsh.
3. The part of Frodsham Score bordering on Frodsham Marsh.
4. "Ditch near Woodside, Cheshire; *J. Shillito*. This requires confirmation;" *Dick. Flo.* (Not included in *Flo. Liv.*)

A. prateasis, Linn.*Meadow Foxtail-grass.*

In good meadows and in moistish pastures. *P.* May. Native. Generally distributed. Personal records in 2, 3, 4, 7; second-hand records in 1, 2, 4, 5, 6.

PHLEUM, Linn.**P. pratense, Linn.***Meadow Cat's-tail-grass.*

In meadows and pastures, the edges of fields, and roadside grassy wastes; hard bare banks for the nodose and smaller forms. *P.* Summer. Native. Generally distributed. Personal records in 1, 2, 3, 5, 6, 7; second-hand records in 1, 2, 4, 5, 6, 7.

The type becomes *var. nodosum* (Syme) in suitable situations, as is the case with *Juncus fasciculatus* and *bufonius*.

P. arenarium, Linn.*Sand Cat's-tail-grass.*

On the drift-sand of any sheltered part of the sandhill range, and in the adjoining fields, hedge-cops, roadsides, &c. *A.* May. Native. Chiefly on the north coast. Shore.

4. On the sandhills abundant; *Flo. Liv.*, &c. *Qy.* Is there any record south of West Kirby? I have no record from the river-banks near and south of Parkgate. Sandhills near New Brighton; Wallasey; Leasowe; Hoylake, &c.

Polypogon monspeliensis, Desf.

Casual on ballast.

4. Birkenhead ballast, 1871; (*Brown*), *Flo. Liv.*

AGROSTIS, Linn.**A. canina, Linn.***Brown Bent-grass.*

On hard, bare, heathy ground. *P.* June, July. Native. Generally distributed. Personal records in 2, 3, 5; second-hand records in 1, 2, 4 [5].

Not included in *Wood, Flo.*, and, as a coincidence, it is not included in the "Flora" of our neighbouring county of Shropshire by Mr. Leighton.

[*Var. mutica*, Döll.

3. Oakmere; (*G. A. Holt*), *E. C. Rep.* 1892, p. 390.]

[*Var. pallida*, Reich.

5. Fish Pool, Delamere; (*Id.*) l. c.]

A. alba, Linn.

Marsh Bent-grass.

In boggy drains and mere margins, shallow dry gutters in fields, road-side wastes, the borders of cornfields, the wet clay banks of the coast, and mixing with the shore marsh vegetation. *P.* July, August. Native. Generally distributed. Personal records in 2, 3, 4; second-hand records in 1, 2, 3, 4, 5, 6, 7.

Var. β. stolonifera (*A. stolonifera*, Sm.).

4. On the shore at New Brighton; (*Skellon*), *Dick. Flo.* At the base of the clay-banks northwards from Parkgate I have gathered the plant as strongly marked as the *E. B.* figure: it is frequent along the coast in a less developed state; *Webb.*

A. vulgaris, With.

Common Bent-grass.

Open woods, pastures, hedge-banks, cultivated land, roadsides, &c. *P.* June, July, August. Native. Generally distributed. Personal records in 1, 2, 3, 7; second-hand records in 1, 2, 3, 4, 5, 6, 7.

Var. β. pumila, Linn.

1. Lindow Common; *Buxt. G.*
2. Baguley Moor; (*Wood*), *Phyt. i.* p. 279.
4. Hilbre Islands; *Newbould and Webb.*

[*Var. γ. nigra*, With.

5. Kidnal Farm; *A. H. Wolley Dod.*]

[*Var. aristata*, Pers.

3. Delamere; (*G. A. Holt*), *E. C. Rep.* 1892, p. 391. Oakmere; *Id. fide A. H. Wolley Dod.*]

A. spica-venti, Linn.

Casual.

2. I found this during the year 1847 in a field near the Priory, Staleybridge; and the same year in a field near Northen; *Buxt. G.*
4. Plentiful on new roads near Birkenhead Docks; *Dick. Flo.* Does not appear in the recent lists of ballast introductions.

PSAMMA, Beauv.

P. arenaria, R. & S.

Sea-sand Mat-grass.

On the sandhills and adjoining sandy ground, binding the loose sand. *P.* July. Native. Rare.

4. On the coast sandhills, abundant; *Flo. Liv. &c.* New Brighton, Hoylake, and Wallasey sandhills; "The Scrub," north of Gayton Cottage.

CALAMAGROSTIS, Adans.**C. epigeios, Roth.***Close-panicked Reed-grass.*

In moist, somewhat shaded situations, and on the more exposed banks by the sea occasionally. *P.* July. Native. Rare. Chiefly shore.

1. Redes Mere, Capesthorpe; (*J. W. Hatton*), *Nat.* ii. (1865), p. 155. I saw it in the plantation opposite to the north end of the mere along with *Carex paniculata* in 1874; *Webb, sp.*
2. Warford near Sandle Bridge; *Holland.* (Just within the bounds of this Hundred.) One or two plants in a very unlikely place, viz. a hedge near a footpath leading from Mr. Barber's farmyard above the Smoker Wood, Tabley, to Milley Lane, Pickmere, 1866.
4. In Gilbrook; and Tranmere Wood; *Hall, Flo.* Clay-banks between Egremont Ferry and the Magazines; *Dick. Flo.* Eastham; (*Dr. Dickinson*), *Flo. Liv.* It grows on the broken bank of a recess above the shore, about half-way between Eastham and Bromborough; *Webb and Brown.* Just on the escarpment edges at the top on the east side of Little Hilbre Island, fine, 1867.
5. [Rare: Pond near Grafton Hall; *A. H. Wolley Dod.*]

C. lanceolata, Roth.*Open-panicked Reed-grass.*

In swampy woods, margins of meres and osier beds. *P.* July. Native. Rare. Chiefly north plain.

1. Big Wood near Staley Hall; *Burt. G.* (This I presume is the "Staley Bridge" locality of *Wood* in *Phyt.* i. p. 279.)
 2. On the margin of Rostherne Mere; *Wood, Flo., Hunt, sp.*, 1864, and (*J. Sidebotham*), *Lowe, Brit. Gr.*, tab. xv. B. Margin of Rostherne Mere; Plentiful in large clumps in the willow-bed in the north-west corner of Pickmere Mere.
 5. [Locally plentiful: Bar Mere and Quoisley Mere; *A. H. Wolley Dod.*]
 6. Brankelow Moss, Combermere. Though called a "moss," this was a swampy wood where I gathered the plant.
- Will doubtless occur, though thinly and locally distributed, in all our inland districts. Absent from 4.

C. stricta, Nutt.*Small Reed-grass.*

The swampy margin of Oakmere. *P.* End June. Native. One locality in mid plain.

3. Oakmere; *G. E. Smith*: discovered there a short time previous to 1847, inasmuch as specimens were communicated by Mr. Smith to the Botanical Society in February of that year (as mentioned in *Phyt.* ii. p. 759). The earliest specimen I have seen thence is one in *Herb. Hunt*, gathered by Richard Buxton in 1855. I have seen the grass myself there during several seasons. It grows at the north-east end of the mere near some fir trees, right into the

swampy edges of the mere: here it is conspicuous and plentiful, and cannot well be missed. It is associated with *Carex ampullacea* (some of which may be *involuta*, but I could not make it out so at my last visit). This is our chief Cheshire rarity.

PHRAGMITES, Trin.

P. communis, Trin.

Common Reed-grass.

In shallow water by the sides of meres, in banked-up ditches, wet woods and marshy pastures, and on clay-banks within tidal reach. *P.* July, August. Native. Generally distributed. Personal records in 1, 2, 3, 4, 6; second-hand records in 1, 2, 3, 4, 5, 6.

[*Echinaria capitata*, Desr.]

A casual.

1. Amongst refuse from wool at Romiley; (*J. Whitehead*), *R. C. Rep.* 1875.]

MILIUM, Linn.

M. effusum, Linn.

Spreading Millet-grass.

In damp, shady woods. *P.* June. Native. Probably thinly distributed throughout.

1. Marple Wood, and other woods in the same neighbourhood; *Buxt. G.* Reddish Wood, and several other places in Reddish Vale, abundant; *Ib.* and (*J. Sidebotham*), *Lowe, Brit. Gr. tab. xii.* Quarry Bank and Northcliffe woods (near Styal); *Holland.* The wooded higher terrace of Gatley Carrs.
2. Cotterill Wood; *Wood, Flo. and Hunt, sp.* 1864. Spring Wood, Knutsford; *Holland.* Denna, west of Hill Cliff; *Warr. List.* Rather common; Plentiful in Tabley Garden Wood; In the Round Wood, Tabley Park, near the Rinks Pool; The belt between White Lodge and Tabley Lane End; Becket's Wood, Aston; Rose Wood, near Moore; Cotterill Clough.
4. In Tranmere Wood; *Hall, Flo.* Eastham; *Dick, Flo.* Abundant in the Hooton Woods above the river-bank; *Brown and Webb.* I have never seen this at Eastham; *Webb.*
5. [In all the woods; *A. H. Wolley Dod.*]
7. Just in this district on the Northwich roadside after crossing Peever Brook at Winnington Wood, in what is called "Hell Hollow."

AIRA, Linn.

A. caespitosa, Linn.

Tufted Hair-grass.

By ditches, and in other like situations where water stagnates, particularly on clay soils; in boggy pastures, cornfields, and meadows; moist woods and wet places on the moorlands, &c. *P.* July, August. Ascends to 1750 feet. Native. Generally distributed. Personal records in 1, 2, 7; second-hand records in 1, 2.

A hardy grass that can adapt itself to almost any situation.

A. flexuosa, Linn.*Wavy Hair-grass.*

Heaths, moors, on the banks and borders of the mosses, in dry ericetal woods and half-reclaimed pastures. *P.* Summer. Native. Generally distributed. Personal records in 1, 2, 3, 5, 7; second-hand records in 1, 2, 3, 4, [5], 6, 7.

A. caryophyllæa, Linn.*Silvery Hair-grass.*

Banks and field-edges where the soil is light and sandy; also on hedge-cops, walls, roofs, and near the coast common in sandy fields and on the sandhills. *A.* (Always so?) May, June. Native. Thinly distributed inland, but more common on the coast.

1. Lindow Common; *Gr. Flo.*
2. Bowdon, common; *Wood, Flo.* Dunham Park; Carrington; *Gr. Flo.* Antrobus Hall Lane, Warford; *Holland.* Sandy banks of River Bollin, near Butts Clough, Ashley, 1868; *Hunt, sp.* Under a hedge near Dunham Massey Church, 1864; *Id.* Rather rare: By the lane-side between the Chapel at Plumbley and Trout Hall; Hedge-bank near Smithy Green.
3. The side of the road for half a mile near the Abbey Arms Inn, Delamere; (*Bickham*), *Proc. Manch. L. and P. Soc.* viii. p. 169. Sandy field-edges near the west margin of Oakmere; Delamere Forest, by roadsides, dry pastures, around the meres, &c., common; Roadside near Dunham-on-the-Hill station: Ince village; Helsby Hill; Hay Croft, Spurstow.
4. Sandhills, plentiful: *e.g.* between Wallasey and Leasowe; Hoylake; West Kirby, &c.; Raby Water-mill. A frequent plant according to the Liverpool Floras.
5. Waverton Quarry.
7. In the sandy lane which leads S.E. from Peover Heath Cover. This is a common littoral plant in Cheshire, but it is rather rare throughout the county inland. After flowering it soon ceases to be conspicuous.

A. præcox, Linn.*Close-headed Hair-grass.*

On heaths, dry banks, rocks, wall-tops, and in sandy pastures near the coast. *A.* May and early June. Native. Generally distributed. Personal records in 1, 2, 3, 4, 7; second-hand records in 1, 2, 3, 4, 5.

AVENA, Linn.**A. flavescens, Linn.***Yellow Oat-grass.*

On dry grassy wastes by roadsides, on banks in somewhat elevated pastures, and rarely in meadows. *P.* July and into September. Native (or sometimes sown inland). Thinly distributed throughout.

1. Between Wood End and Apethorne, Hyde; *Sidebotham, MSS.* Between Furness Vale and Whaley, by the roadside, and between the same two places at the base of the canal towing-path wall; The lane up from Disley Colliery to Disley; *Webb.* A field by the roadside about half-way between Disley and Whaley Bridge.

2. Meadows between Bowdon Vicarage and the Bollin, 1858; and Bowdon, 1864; *Hunt, sp.* Not unfrequent in Mobberley: but I do not recollect to have seen it in very old meadows or pastures, so I cannot conclude it native, for seedsmen recommend it and put it into their mixtures; *Holland.* About Runcorn; (*J. B. Wood*), *Flo. Liv.* Rare. A single specimen from a meadow near Peover Brook, a little above Holford Hall; Canal-bank near Dunham Massey, sparingly.
 3. About Frodsham; (*J. B. Wood*), *Flo. Liv.* Lane between Ashton Hayes Lodge and Woodside; Meadows near Helsby station.
 4. New Brighton; (*J. Shillito*), *Supp. Dick. Flo.* Heswell shore; (*Brown*), *Flo. Liv.* Bidston Marsh; (*Skellon*), *Proc. Hist. Soc.* vii. (1855), p. 170. The main-road wastes between Five Lane Ends and Ashfield Lodge, near Parkgate; *Webb.* Sparingly on right side of the road between Hooton station and the Willaston Toll-gate; *Brown.* The Cop, Chester; Meadows, Blaen Point; Thornton Grange.
 5. Turnpike road between Hatton Heath and Waverton; *Lewis.* Rubbish near Queen's Hotel, Chester; About Crooked Dee, north of Aldford, common; Common about Chester; Near Tattenhall station; Eaton Hall grounds, S.E.; Christleton.
 6. By the roadside where it crosses the stream between Crewe and Crewe Green; *Webb.*
 7. Near Wood Hay Farm, three quarters of a mile S.W. of Congleton station; *Webb. sp.*
- Rare and probably seed-brought in the plain of Cheshire; but I suspect native in such districts as Disley.

A. pubescens, Linn.

Downy Oat-grass.

- Short-turfed pasture-ground near to the sea. *P.* June, July. Native on the coast. Rare. Chiefly shore.
2. Right bank of canal about half-way between Broadheath to Seaman's Moss Bridge, on the hedge-bank, June 1860; *Hunt, sp.* (Brought with ballast? When a grass is absent from the surrounding fields and occurs on a canal-bank, with suspicious company recorded from the same canal-bank, it is not unreasonable to suspect its nativity.)
 4. Hilbre Island, very abundant; *Hall, Flo.* West Kirby; (*Miss Grundy*), *Proc. Hist. Soc.* vi. N.S. (1866), p. 263. I only know it upon the Little Eye, Hilbre, which, with no more space for plants than the superficies of a good-sized room, yet produces four species I have not seen on the larger islands, namely, the present, *Thalictrum minus*, *Chlora*, and *Trifolium arvense*; *Webb.* In the second field from the shooting-range, taking the pathway to it from the road near Blaen Point.
 5. Chester city-walls (*Fisher*), *Flo. Liv.* In two fields about a mile S.W. of Christleton.

A. strigosa, Schreb.

Casual.

2. Cinder-heap by Seaman's Moss Bridge, below Altrincham.

Several Lancashire localities named in *Buxt. G.*, which further states, "Not unfrequent. Cultivated fields, on the banks of railways and waste places."

The Liverpool Floras give it as a "frequent cornfield plant, possibly introduced."

A. fatua, Linn.

Wild Oat.

In cultivated fields. *A.* July, August. Native or colonist. Information imperfect. Probably thin but even distribution.

1. "Often found with the cultivated oat;" (*Mr. Bradbury*), *B. G.*
2. In cultivated fields: local and not common; *Wood, Flo.* and *Buxt. G.* (only two Lancashire localities named).
4. No Wirral localities given in the Liverpool Floras.
7. Congleton; (*J. Sidebotham*), *Lower, Brit. Gr. tab. lix.*

It is quite possible that *var. intermedia* may prove the prevalent form of *A. fatua* in Cheshire. The old records of the aggregate are here given.

Var. *β. intermedia* (*A. intermedia*, Lindgren).

2. Potato-fields, Bowdon, August 1858; *Hunt, sp.* I should call Mr. Hunt's specimen also *intermedia*: though not quite so typical as the above, at all events it is widely removed from the *pilosissima* I gather in Sussex. I believe Mr. Watson finds these two varieties shade off into each other at Ditton. A single specimen from that part of Tabley Park which lies between the Lake and the White Lodge, and is called "Burgh's Meadow," September 1867, which was then laid down in oats: two or three more were procured in the same ground in 1868 and 1869: these were submitted to Dr. Syme (see *E. B.* xi. p. 80), and proved one of the three first stations printed for this Oat in England.

A. elatior, Linn.

Common False Oat.

On banks, in hedges, and on the borders of fields; seldom in meadows. *P.* July, August. Native. Generally distributed. Personal records in 1, 2, 3, 4, 7; second-hand records in 1, 2, 3, 4, 5, 6, 7.

[Var. *β. nodosa*, Reich.]

5. Tilston; *A. H. Wolley Dod.*]

Chloris radiata, Willd.

Casual.

1. Amongst refuse from wool at Romiley; (*J. Whitehead*), *R. C. Rep.* 1875, p. 142.]

HOLCUS, Linn.**H. mollis, Linn.**

Creeping Soft-grass.

In open woods, or those newly cleared, and other shady places: occasionally about the borders of fields and on roadside wastes. *P.* Summer. Native. Information imperfect. Probably rarer than supposed.

1. Seen in the Staleybridge neighbourhood; *Baker*. Only noted in the Birch Wood at Furness Vale; *Webb*.

2. Common, according to the Manchester Floras. Cotterill Clough; Field-edge near the Pound, Knutsford Race-course; Becket's Wood, Aston; Altrincham, towards the canal.
3. Delamere Forest, common; Tarporley; Bunbury Heath plantation; Peckforton, N.
4. "In pastures and hedges, common;" *Hall, Flo.* "Hedges and pastures, frequent;" *Dick. Flo.* "Meadows, hedge-banks, &c. Very common;" *Flo. Liv.* (in distinction to "Woods, meadows, &c., common," for *H. lanatus*). I have noticed its comparative rarity on both sides of the Mersey, and cannot with certainty detail Wirral stations; *Webb.*
5. Nursery ground south of Chester; Frequent in the lanes, &c., about Chester.

H. lanatus, Linn.*Common Soft-grass.*

In meadows, pastures, cultivated land (particularly where peaty), newly broken ground, roadside wastes, about ponds, on the mosses, and in open woods, &c. *P.* Summer, Autumn. Native. Generally distributed. Personal records in 1, 2, 3, 6, 7; second-hand records in 1, 2, 3, 4, 5, 6, 7.

TRIODIA, R.Br.**T. decumbens, Beauv.***Decumbent Heath-grass.*

On heaths, moorlands, and in hilly or impoverished pastures. *P.* Summer. Ascends to 1300 feet. Native. Generally distributed. Personal records in 2, 3; second-hand records in 1, 2, 4, 6, 7.

In my experience this grass scarcely denotes undrained land, but land that is going back for want of cultivation; *Holland.*

MOLINIA, Schrank.**M. cærulea, Mærch.***Purple Melic-grass.*

On heaths, moorlands, and mosses, and in heathy and peaty woods. *P.* July to September. Native. Generally distributed. Personal records in 1, 2, 3, 4, 5, 7; second-hand records in 1, 2, 3, 4, 5, 6, 7.

On every heath-moss, and in every peaty wood in Cheshire.

MELICA, Linn.**M. uniflora, Linn.***Wood Melic-grass.*

In shady woods, wooded cloughs, and dells, and occasionally on roadside hedge-banks. *P.* June. Native. Thin but equal distribution.

1. Deep shady woods, abundant; *Buxt. G.* Gatley Carrs; Reddish; *Gr. Flo.* Bredbury Wood; *Sidebotham, MSS.* Woods between the canal and the river near Furness Vale towards Whaley Bridge; Woods above the river between Bredbury Hall and Waterside Farm; *Webb.*

2. Lymm; *Gr. Flo.* Bowdon; *Hunt, sp.* Very common in Mobberley in small copses: *e.g.* Near Spring Wood; At Burley Hurst; At Vale Wood; and in a wood of my own; *Holland.* "The Dingle," east of Hill Cliff; *Warr. List.* Local: By the hatch going the back way to Tabley Old Hall; In the Round Wood, west side of Rinks Pool; Turnpike roadside north of Gallimore's Lodge.
4. Tranmere Wood and Gilbrook; *Hall, Flo.* Eastham; Bidston; and similar places in Wirral; *Dick. Flo.* Prenton; (*Fisher*), *Flo. Liv.* In Bromborough Woods, and in the Hooton Woods, near the river; *Webb and Brown.* Still in the remains of Gilbrook; *Webb.*
5. The Meadow Plantation, Eaton Hall grounds; Dee banks above Eccleston; Heron Bridge.
7. In the new cover, Lower Peover; and in the dingle with *Poa nemoralis*, by Peover Brook, half a mile above Holford Hall.

M. nutans, L.

Error?. Requires confirmation (old record).

In woods frequent, as Early Banks Wood; (*Mr. Bradbury*), *B. G.*

"There is no antecedent improbability against Mersey, given on the authority of Mr. Bradbury in the *Botanist's Guide*; but the former union of the two species, and frequent misapplications of their names since, suggest the necessity of more than the usual caution or scepticism in stating here the area and range of the species;" (*H. C. Watson*), *Cyb. Brit.* iii. (1852), p. 193.

CATABROSA, Beauv.

C. aquatica, Beauv.

Water Whorl-grass.

On the mud of ditches, small streams, and roadside splashes: on the coast in places where water trickles over the strand. *P.* Summer. Native. Probably thinly distributed throughout.

1. Very plentiful in a ditch at Lindow End, in Warford; *Holland.* Ditches, Alderley Edge; *Brown.*
2. Seaman's Moss Pits, near Timperley; *Wood, Flo.* Sale; *Burt. G.* Hale Moss; *Ib.* and *Hunt, sp.* 1864. It is quite gone from the Shaw's Heath station, Knutsford, where it used to nearly choke up a pit opposite the Dog Lodge; *Holland.* Rather common: The Manchester roadside, 16½ miles from Manchester, just after Tabley Grange; Shaw's Heath, Knutsford roadside; Lane-side, in the ditch a short way above Acton Bridge; Pits past the Wash Farm; Ditch in road above Gallimore's Lodge; Pit south of Garden Wood, profusely with *Ranunculus hederaceus*; Ditch in roadside to Chelford, near Ollerton; Ditches of Moss Lane, between Moore and the canal.
3. Frodsham; *Hunt, sp.* 1862. Ditto: common alongside Moor-ditch Lane, &c.; *Webb.* In drains joining the Gowy west of Great Barrow; *Webb.* Roadside ditch near Beeston

village; Ditch by railway by Tarvin station; Ditch, Frodsham Marsh.

4. Parkgate (*var. minor*); (*Rev. T. Gisborne*), *Smith in E. B.*, No. 1557. (No Cheshire localities named in the *Liverpool Floras*.) In the ditch bordering the east side of the shooting-ground at Leasowe; *Webb*. In small patches on the sand in little pools just above high-water mark, a quarter of a mile north of Hoylake; Also in a similar position below Leasowe Castle; Again south of Parkgate, by little streamlets draining through the salt mud.

5. River meadow at Bridge Trafford.

Will occur doubtless in all the districts. The littoral plant is a third the size (or less) of the inland specimens: it has been raised to specific honours, but, as Dr. Syme remarks, "it is impossible to draw a line of demarcation between it and the ordinary form." Is it mere accident that this grass always seems to me to choose roadside water, as the common Mallow chooses roadside soil?

GLYCERIA, *R.Br.*

G. fluitans, *R. Brown*.

Floating Meadow-grass.

In open ditches, by pits, and other wet or marshy places; also on mud heaps, &c. *P.* Summer, Autumn. Ascends to 1000 feet. Native. Generally distributed.

1. Swampy wood at the head of the north branch of the stream that passes through Furness Vale; Pit in the enclosure of a deserted colliery by High Lane station; Pit near the railway bridge, half-way between Hazel Grove and Woodford; *Webb*.
2. In the swampy continuation of a circular pit which is on the right hand of the road in Tabley Park connecting the Old and New Halls: (specimens hence passed by Mr. Townsend: doubtless elsewhere in the neighbourhood); Hale Moss.
3. Near Stanford Mill; Hatchmere.
4. Blacon Point; "*Pinguicula* ground," Raby.
5. Field-pit near the Red House, Dee Banks, Chester; Newton, N.E. of Tattenhall; Gowy-side, east from Guilden Sutton; Christleton.
6. Seen south of Crewe towards Wybunbury; *Newbould and Webb*.
7. On the Macclesfield Canal between Mow Cop and Congleton; *Webb*.

Var. β. pedicellata (*G. pedicellata*, Townsend).

1. Both sides of the Peak Forest Canal about Disley; Stream-side descending from Whaley Moor at, say, 1000 feet; Longside road near Badger Clough; *Webb*.
2. Hale Moss, Bowdon, July 1857; *Hunt, sp.* In a ditch by the

Manchester roadside just outside some farm buildings which are marked on the Ordnance Map, immediately below where "White Lodge," Tabley, is written: specimens hence seen by Mr. Townsend; Also in a streamlet meeting the lower willow bed, Tabley Park, at right angles on its west side. (Doubtless elsewhere: I believe this is our common form.)

3. Marshes, Frodsham, June 1868; *Hunt, sp.* (There is another sheet in the Hunt Herbarium from the same place and gathered at the same date which I refer to *G. plicata*. Both gatherings are labelled by Mr. Hunt *plicata*, but the plant, which, I conceive, belongs to *pedicellata*, is labelled thus: *G. plicata*, β , the *beta* being scored through. On the ticket of the genuine *plicata* I have affixed a cross for distinction.) Ditch, the Rake Lane, near Helsby station; Ditches, Frodsham Marsh; Spurstow.
4. New Ferry; *Lewis, sp.* The common Wirral plant; *Webb*.
5. Tattenhall; *Lewis, sp.* About Bache Pool, near Chester; *Webb*. Pit in the second field above Lea Hall Farm, near Aldford; Dee Cop, Chester; Bird's Lane, Tattenhall.
6. Seen on the way to Wybunbury from Crewe between the stream and Gresty Green; *Newbould and Webb*.

G. plicata, Fries.

Short-spikelet Meadow-grass.

The borders of pits and other wet and marshy situations. *P.* Summer. Native. Information imperfect. Perhaps fairly general.

1. Swamp, Water Meeting Farm, near Romiley.
2. Passed as typical by Mr. Townsend from a pit on the left-hand side of Tabley Lane, just before you reach Mr. Ashbrook's Farm, 1870; Near the Bollin, under Hale Bank; Ditch, south border of Norton Marsh; Roadside pond at Lower Walton; Between the canal and railway near Daresbury; Marshy meadow by Weaver Canal, near Sutton Bridge; Acton Grange.
3. Marshes, Frodsham, June 1868; *Hunt, sp.* (See note under *G. pedicellata* for Frodsham specimens, also gathered by Mr. Hunt.) About Horne Mill, Alvanley; Near Oulton Mill; Peckforton; Between Bridge Trafford and Dunham, near the railway.
5. First field-pit past the Red House, Dee Banks, Chester; By the Toll-gate and in several neighbouring localities N.E. from Mickle Trafford; Well lane leading to Dickson's Nursery, Chester; Guilden Sutton.

[*Var. γ . declinata, Bréb.*

5. Pond in Edge Park; *A. H. Wolley Dod.* (Mr. Marshall thinks this may possibly be starved *plicata*.)]

G. aquatica, Sm.*Reed Meadow-grass.*

In broad ditches and pits, and by the side of canals and streams. *P.* July, August. Native. Thinly and locally diffused throughout.

1. In a pit near Gee Cross, called "Jolly-bank pit;" *J. Sidebotham, MSS. and Lowe, Brit. Gr. tab. xxxii.*
2. By the canal and in neighbouring ditches near Sale; Timperley; Altrincham; Thelwall; Grappenhall; *Wood, Flo., Buxt. G., Holland, and Hunt, sp.* Mobberley; *Gr. Flo.* In a large pool at Runcorn Limekiln on the road to Rock Savage; (*J. Harrison, Flo. Liv.*)
3. By the canal at Beeston station; and in a similar position at intervals to a mile south of that point (and doubtless onwards).
4. Ditch on the right-hand side of the road from Neston to Thornton Hough, near (past) the first milestone from former; *Webb.* In a small pond close to the canal at Moston Bridge; and by the canal in various places towards Chorlton Bridge; A pit near the railroad between Neston and Hadlow; In a ditch at commencement of the footpath to Neston from the shore at Old Quay, one mile south of Parkgate.
5. Banks of the Dee at Chester: the most westerly station I know; (*J. E. Bowman, N. B. G.*) Canal-bank at Broughton, and near Waverton; Ditch near Stretton Mill; *Brown.* Field-pit on right-hand side of the road from Milton Green to Calveley Hall; Plentiful in the watercourse parallel with Shay Field Lane; and the margin of the combined brooks by the bridge at the entrance into Aldford; *Newbould and Webb.* Ditch by the lane-side between the south entrance gates to Carden Hall and Stretton Mill; *Webb.* [Quoisley Mere; Grafton Brook; About Aldersley; *A. H. Wolley Dod.*]
6. Canal by the bridge crossing from Nantwich towards Ravensmoor; *Brown.*
7. Very plentiful in the canal and in pits close to Northwich; *Holland.* In the Macclesfield Canal, close to Congleton station, and continues along it; *Webb.*

Frequent along the canals, otherwise a rare Cheshire plant, and almost confined to the feeders of the Dee.

SCLEROCHLOA, Beauv.**S. maritima, Lindl.***Sea Meadow-grass.*

In salt marshes and on the shores within tidal reach. *P.* Summer. Native. Rare. Shore.

2. The Mersey shore along Richmond Marsh; North border of Norton Marsh, abundant.
3. Embankment on the shore at Ince.
4. Birkenhead (altered to Bidston Marsh in *Flo. Liv.*); *Hall, Flo.* Near Wallasey Pool; *Dick. Flo.* Upper portion of Brom-

borough Pool; (*Brown*), *Flo. Liv.* The statement in *Dick. Flo.* includes such localities as I know in Mersey Wirral; *Webb*. For half a mile north of Parkgate, and profusely south of it at intervals to the marsh below Puddington: The Cop, Chester.

5. The Dee shore near Saltney.

S. distans, *Bab.*

Reflexed Meadow-grass.

Broken ground by the coast, salt-marshes, and near canals, roads, salt-pits, and railways; as a ballast plant inland. *P.?* June to September. Native on the coast: alien inland. A littoral plant. Ballast introduction inland.

2. I have specimens that I gathered twenty years ago at the Marston Salt Mine; *Holland*. On the road which leads from the New to the Old Hall in Tabley Park, plentiful for twenty yards, 1867-70; associated with *Spergularia neutecta*. By the roadside where the Cheshire Midland Railway crosses the Lower Lane to Trout Hall, 1868-70: brought with railway ballast.

4. On Bidston Marsh, not uncommon; By Tranmere Slip; *Hall, Flo.* (No additional stations given in the later Floras: that at Tranmere, I presume, does not now exist.) I have seen it sparingly in the neighbourhood of the Great Float nearer Birkenhead than Hall's locality expresses: I have not seen it on the shores up the river; *Webb*. By the side of Wallasey Pool as you cross to Bidston; Rubbish heaps, &c., by the Ferry-House and the Limekiln, north end of Parkgate, 1873 (not noticed south of Parkgate): With *Spergularia neglecta* in one place on the canal dredge-mounds a quarter of a mile north of Mollington Bridge: an unusually fine form, 1873.

5. Under some of the arches of the railway viaduct, Rood Eye Cop, Chester; The Dee bank at Saltney.

7. Waste ground at Northwich Station.

S. procumbens, *Beauv.*

Procumbent Meadow-grass.

On waste ground and by the sides of roads near the sea. *P.?* June to September. Native. Not known out of Wirral. Shore.

4. Abundantly about Birkenhead Docks; (*Fisher*), *Flo. Liv.* Not noticed as a Cheshire plant in *Hall, Flo.* or *Dick. Flo.*, and Mr. Webb states that it has come into prominence since the alterations of Wallasey Pool, growing about the edges of the roads and on the hard clay wastes bordering the Great Float. By the margin of Wallasey Pool where it bends round and meets the footpath from Wallasey to Bidston: there was abundance when I was there in 1867, but I could see no *Sclerochloa maritima*.

S. rigida, *Link.*

Hard Meadow-grass.

On dry banks and wastes near the coast. *A.* June, July. Native. Rare. Shore.

4. New Brighton; (*Miss E. Potts*), *Hall, Flo.* Sandhills near the

Rock Fort; (*A. Murray*), *Ib.* Shore below Heswell; (*Webb and Fisher*), *Proc. Liv. L. and P. Soc.* xv. (1861), p. 13. Eastham; (*Dr. Dickinson*), *Flo. Liv.* (I cannot trace this record.) Claughton Park; (*Fisher*), *Ib.* Under the wall on the right-hand side of a little-used roadway from the New Brighton road to the sandhills, at the back (*i.e.* east) of the lower portion of Wallasey village, very fine, 1873; *Webb and Lewis*. It may grow still by both rail- and gutter-coping of the sidewalks about the West Lodge of Birkenhead Park; *Webb*.

S. loliacea, *Woods.*

Dwarf Meadow-grass.

Amongst shingle and sand on the coast, a little above high-water line. *A.* June. Native. Local. Shore.

4. Plentiful in one spot on the shore of the Dee near Parkgate; (*J. Shillito*), *Supp. Flo. Dick.* (Destroyed in this locality (1854); *Proc. Hist. Soc.* vii. (1855), p. 170.) Amongst shingle and at the base of the wall in the first field enclosure north of Parkgate; In the sandy tract commencing under the garden wall of the house at Old Quay, a mile south of Parkgate; and seen now and again between the colliery and the gravel pit on that side of Burton Point, 1873; *Webb and J. L. W.*

Confined to about three miles on the western coast of Wirral.

POA, *Linn.*

P. annua, *Linn.*

Annual Meadow-grass.

In almost any soil and situation where not overpowered by more luxuriant vegetation. *A.* Spring, Summer, Autumn and sometimes Winter. Ascends to 1750 feet. Native. Generally distributed. Personal records in 1, 2, 3, 6, 7; second-hand records in 1, 2, 3, 4, 5, 6, 7.

P. nemoralis, *Linn.*

Wood Meadow-grass.

Shady hedge-sides and deep overgrown gullies. *P.* Summer. Native. Information imperfect. Hills, north and mid plain.

1. Brookside near Gatley Carrs, Cheadle; *Buxt. G.* ed. ii. Reddish Vale; (*J. Sidebotham*), *Lowe, Brit. Gr.* tab. xl. A. The wooded higher terrace of Gatley Carrs.
2. Plentiful in a hedge on the way to Cotterill; (*Leigh*), *Gr. Flo.* Pavement Lane, Mobberley; (*Holland*), *Ib.* Plentiful in a hedge-gap which you cross ascending Peover Brook to about half a mile above Holford Hall, but on the opposite side, and in several other hedges between that and Trout Hall; In the cop which divides the Rinks, Tabley Park, from the Round Wood, about 200 yards above the bridge over Waterless Brook.
4. Hooton Park in a wood; (*J. Shillito*), *Proc. Liv. L. and P. Soc.* xiii. (1859), p. 7. (Found since?)
5. Bank below the wood south of Eccleston Ferry; The old

wooded bank of the Dee about opposite Heron Bridge ;
River-side wall-ledges a little below the mill at Chester.

7. In a dingle which runs from a pit to Peover Brook, just on the outside, west of Peover New Cover.

Seems local throughout Cheshire.

P. compressa, Linn.

Flattened-stemmed Meadow-grass.

On dry hard roadside wastes near the coast. *P.* Summer. Native.
Very rare. One shore and one Broxton locality.

4. Rather more than half a mile along the road from the Ferry House, Parkgate, to Leighton Hall, extending for full fifty yards on the hard grass-covered ground bordering the left-hand side of the road: it occupies more or less the tract between the three last hedgerow oak-trees before the sharp turn to Leighton Hall is reached, July 1874; *Webb, sp.* This is the *var. polynoda*, Parn. The same *var.* found in 1863 as a ballast plant at Birkenhead; (*Fisher*), *Flo. Liv.*
5. The face and ledges of the river-wall under Chester Castle.

P. pratensis, Linn.

Smooth-stemmed Meadow-grass.

In meadows, pastures, on banks, by roadsides, on wall-tops, &c. *P.* Early June (no second flowering). Native. Generally distributed.
Personal records in 2, 3, 6, 7; second-hand records in 1, 2, 3, 4, 5, 6, 7.

A great portion of the grass of Tabley Park just fronting the house is this. It seems to flower a fortnight earlier than *P. trivialis*. This year (1867), about June 7, it was at its best, and *trivialis*, as they say of oats, only just "shot."

Var. γ. subcærulea (P. subcærulea, Sm.).

4. Seacombe; (*Fisher*); *Proc. Liv. L. and P. Soc.* xiii. (1859), p. 7.
Stated to be a common variety on the sandhills in *Hall, Flo. and Flo. Liv.*

P. trivialis, Linn.

Rough-stemmed Meadow-grass.

Moist meadows and pastures, the edges of ditches, &c., under hedges and any other like shaded ground. *P.* End of June; sometimes into August and September. Native. Generally distributed. Personal records in 2, 7; second-hand records in 1, 2, 3, 4, 5, 6, 7.

[*Var. β. Koehleri, DC.*

5. Bickerton Hill; *A. H. Wolley Dod.*]

Eragrostis pectinacea, Beauv.

A ballast importation.

4. From a new-made road at Cloughton, Birkenhead; (*Webb*), *E. C. Rep.* 1862.

BRIZA, Linn.

B. media, Linn.

Common Quaking-grass.

In pastures, preferring either a poor sandy or poor tenacious soil; in meadows; on banks and roadside wastes and heaths. *P.* Summer. Ascends to 1750 feet. Native. Thin inland distribution; more frequent coastwards.

1. Reddish Vale; Marple Vale, plentiful; *Rust. G.* Between

Handforth and Styal, and about Norcliffe Hall; *Gr. Flo.* Amongst the turf by the roadside near the "Cat and Fiddle," and in several other places; *Webb.*

2. In the valley of the Bollin and the adjacent district, otherwise rather rare; Ashley meadows; *Gr. Flo.* About Ringway; *Wood, Flo.* Banks near Cotterill Wood; *Hunt, sp.* Generally to be found near the confluence of a little stream (formerly called "Benstall Brook") with Waterless Brook under Clay House Farm, Tabley; On the dry banks near Winnington Wood, near Holford Hall; Plentiful in the *Allium* field at Holford; Railway banks at Preston Brook station south of Warrington, abundant.
3. Observed in a meadow near Beeston station.
4. Frequent in meadows and pastures; common on the clay-banks of the Mersey; *Hall, Flo.* "Common;" *Flo. Liv.* I have seen it frequently in Wirral, but generally poor and in no great quantity, excepting in the sloping fields on the west side of the hill between Noctorum Farm and the Upton road; *Webb.* Dry common land between Wallasey and Leasowe; Hilbre Island.
6. Sparingly in a bleak pasture on College Field Farm near Audlem; *Webb.* Fields between Wrenbury and Combermere, apparently common.
7. Brookside below Peover Mill, sparingly; Copiously on the wettest parts of Brookhouse Moss.

This common grass is, I think, sufficiently local in many parts of Cheshire to warrant my describing its distribution.

B. minor, Linn.

Error.

In high pastures; (*Mr. Bradbury*), *B. G.*

A frequent misnomer amongst contributors of lists, &c. Of course small *B. media* is meant. Knapp proposed for the plant the name *B. aspera*, in consequence of the misleading tendency of the term *minor*.

CYNOSURUS, Linn.

C. cristatus, Linn.

Crested Dog's-tail-grass.

In pastures, meadows, and by roadsides, &c. Does not like wet ground. *P. July.* Native. Generally distributed. Personal records in 2, 3, 6, 7; second-hand records in 1, 2, 4, 5, 6, 7.

Quite one of the commonest grasses, even more so, I believe, in Cheshire than *Holcus lanatus*, though less so than *Agrostis vulgaris*.

C. echinatus, Linn.

Rough Dog's-tail-grass.

Introduced with foreign grass and clover seed.

2. Near Jackson's Boat, near Chorlton, abundant in 1852; *Sidebotham, sp.* (Sent as a Cheshire plant, but the ticket-locality reads like Lancashire.) Fields near Bowdon; *Sidebotham, sp.*

DACTYLIS, Linn.**D. glomerata, Linn.***Rough Cock's-foot-grass.*

In meadows, pastures, woods, and waste ground. *P.* July, August.
Native. Generally distributed. Personal records in 1, 2, 3, 6, 7;
second-hand records in 1, 2, 4, 5, 6, 7.

FESTUCA, Linn.**F. uniglumis, Soland.***Single-glumed Fescue-grass.*

On the coast sandhills. *A.* Early June. Native. Wirral coast.

4. Very abundant on the sandhills at New Brighton; *Hall, Flo.* (altered to "Wallasey" simply in *Flo. Liv.*). Sandhills at Hoylake; (*Miss Grundy*), *Proc. Hist. Soc.* vi. N.S. (1866), p. 263. I have never failed to meet with this in that portion of the sandhills beyond the "Red Noses," and before they widen out under Wallasey: it grows on the bare sand on the sheltered sides of the hills and in the small valleys: the plant assumes a reddish tinge when on the wane, and being gregarious, the patches may be recognised at a considerable distance in, say, the last week of June: it also grows on a shooting-ground west of the tract I allude to; *Webb, sp.*

F. Pseudo-myuros, Soyer.*Capon's-tail Fescue-grass.*

On dry, waste ground by roadsides. *A.* June. Native. Rare. North and mid plain, and shore.

2. Dunham Road, Bowdon, June 1868; and near Bowdon, June 1869; *Hunt, sp.* The second gathering, I suppose, is also from Dunham Road: Mr. Bickham defines the locality as "near the farm-entrance to Dunham Park."
3. In a sandy waste at the right-hand side of the road in Delamere Forest, between Folly Farm and Sandy Brow, nearest the former, twenty or thirty plants.
4. On old walls near Bidston; *Dick, Flo.* West Kirby; (*Webb*), *Proc. Hist. Soc.* vi. N.S. (1866), p. 263. This may be found at the base of the wall opposite to the entrance to Grange Farm; On the right-hand side at the beginning of the road from Grange Hill to the Hill Houses; and also along the road above the Grange Landmark column; *Webb*. The road corner between Gayton Mill and Gayton, opposite the turn to Gayton Hall, sparingly.

F. sciuroides, Roth.*Brome-like Fescue-grass.*

By roadsides, and on wastes where the soil is sandy, as also in dry sandy pastures, and on the coast sandhills. *A.* Summer. Native. Local inland. More frequent coastwards.

1. Alderley Edge; *Gr. Flo.*
2. Sale; Sandy ground at Timperley; Frequent at Bowdon; *Hunt, sp.* and *Buxton, G.* Altrincham; *Buxton, G.* Near

Shaw's Heath, Knutsford; (*T. Rogers*), *Phyt. N.S.* vi. p. 248. Carrington Moss; *Bailey, sp.* Tabley Lane-side, near the Sandpit, 1870; Daresbury; South from Warrington Reservoir; Acton Grange.

3. Roadside banks, &c., Delamere Forest district, common; Near Beeston Castle; Helsby Hill; Dunham-on-the-Hill.
 4. Abundant by waysides in waste ground and on the sandhills; *Hall, Flo.* Claughton; (*Fisher*), *Flo. Liv.* Somewhat inland this grows: At the base of the stone copings of Birkenhead Park; Amongst the macadam of little-used roads north of Claughton village; By the lane-sides at the upper part of Wallasey; On the high ground at the junction of roads on Grange Hill, and about West Kirby; I have not made any records for South Wirral; *Webb*. Storeton; Railway bank near Sutton Station; *Brown*. Common on the sandhills: *e.g.* a quarter-mile north of Hoylake; and on the common ground between Wallasey and Leasowe; Bromborough Station.
 5. Milton Green, sparingly; *Lewis*. Eaton Hall ground, S.E.; Tattenhall Station; Waverton Quarry.
 7. Sparingly in the sandy lane which leads S.W. from Peover Heath; Lane-sides near Henry Leach's Farm.
- Rather local inland, but a common littoral plant.

F. ovina, Linn.

Sheep's Fescue-grass.

P. Summer. Native. Generally distributed. Personal records in 1, 2, 3, 5; second-hand records in 1, 2, 4.

F. duriuscula, Sm.

Hard Fescue-grass.

P. Summer. Native. Generally distributed. Personal records in 1, 2, 3, 5, 7; second-hand records in 1, 2, 4.

Sale, July 1859; *Hunt, sp.* A remarkable form with which I am not familiar: perhaps falls under *Syme's major*.

As common, if not more so, taking all Cheshire, than *F. ovina*.

F. arenaria, Osbeck (*F. rubra*, Sm.).

Creeping Fescue-grass.

On the sandhills, and in the adjoining enclosures; also on the drier parts of salt marshes. *P.* Summer. Native. Not infrequent on the west and north coasts. Shore.

4. On the sandhills, and in (near) Wallasey Pool; *Hall, Flo.* Stated in *Flo. Liv.* to grow in meadows also. I saw at Wallasey Pool in 1867, and at Parkgate, Puddington, &c., in 1873, a grass which I presume is this: *e.g. F. duriuscula* with a creeping rhizome. I have seen the same grass commonly on the shores of Sussex.

Festuca rubra, Linn. (*Lond. Cat.*), *F. arenaria*, Osb. Sandhills, Wallasey; *Lewis*. To this record (from *E. C. Rep.* 1871) Dr. Syme notes—"This is the extensively creeping coast plant with involute leaves, but the florets are finely scabrous or puberulent, at least towards the apex, while they are often sub-glabrous at the base, not pubescent all over as in the typical *F. arenaria*."

F. elatior, Linn.*Tall Fescue-grass.*

P. July, August. Native. Information imperfect. Local and unequal distribution?

2. The stations in *Buxt. G.* are confined to the banks of the Irwell, and there is no Cheshire specimen in *Hunt, Hb.* The Mersey shore along Richmond Marsh.
3. In a trench near *Andromeda (q.v.)* at Oakmere; Near "Four Lane Ends" from Beeston Castle Station towards Tarporley; Field near Dunham; Meadow, about a mile south of Overton.
4. Abundant on a clay-bank below Egremont Hotel, on the shore of the Mersey; *Hall, Flo.* Similar situation at Rock Ferry; *Dick. Flo.* Clay-banks, Parkgate; *Flo. Liv.* On the non-towing-path side of the canal at intervals from the Viaduct to Chorlton Bridge, 1873.
5. Little Rood Eye, Chester.
6. In a ditch near Crewe Station.

[*Var. pseudo-oliacea, Hick.*

5. Edge stable-yard and meadow; *A. H. Wolley Dod.*]

I have not yet lighted on this species in my home district. Its junction-point with *pratensis* is rather indefinite.

F. pratensis, Huds.*Meadow Fescue-grass.*

In meadows, pastures, and on grassy wastes by the side of roads. *P.* Summer. Native. Generally distributed. Personal records in 2, 3, 6, 7; second-hand records in 1, 2, 4, 6, 7.

Var. β. loliacea (F. loliacea, Huds.).

1. Abundant about half a mile below Northen (but on the right bank of the Mersey, and consequently on Lancashire ground); *Buxt. G.*
 2. Ashley Meadows, July 1858; and meadows at Bollington, June 1868; *Hunt, sp.* Tabley Park, in a trench running east from the Upper Willow Bed, 1867.
 3. The meadows about Bridge Trafford.
 4. *Dick. Flo.* says, "More rare than the preceding," without naming any localities: it is not mentioned in *Flo. Liv.*, and I have not yet received any information of its occurrence in Wirral.
 5. In grassy edges of the Eaton Park approach, near Chester gate; The meadows about Guilden Sutton and Plemstall.
 7. Near Northwich; *W. Wilson, MSS.*
- Doubtless shades off into *F. pratensis*, but is sufficiently distinct in good specimens.

BROMUS, Linn.**B. giganteus, Linn.***Tall Brome-grass.*

In woods, wooded cloughs, and other moist shaded places (such as hedge- and ditch-banks, where the hedge affords good shade). *P.* July to September. Native. Generally distributed. Personal records in 2; second-hand records in 1, 2, 4, [5], 6, 7.

B. asper, Murr.*Hairy Brome-grass.*

In hedges and thickets, and about the borders of woods. *P.* June, July. Native. Generally distributed. Personal records in 2, 4, 7; second-hand records in 1, 2, 3, 4, 5, 6, 7.

Certainly commoner than *B. giganteus* in my home district. All I have seen as yet in Cheshire is *B. serotinus*.

B. erectus, Huds.*Upright Brome-grass.*

In pastures and waste places. *P.* Summer. Native. In two isolated hill stations. Extinct? [except as a casual].

1. Formerly rather abundant, but local, in the Reddish Valley, both on the Lancashire and Cheshire sides of the river: it is many years since I visited the place: this year (1874) I sent a friend to the spot, but he did not find the plant: indeed the ground is now cut up for the Midland Railway; *Sidebotham*.

7. Near Congleton, collected about 1847; *Sidebotham, sp.* and (*E. Wilson*), *Lowe, Brit. Gr. tab. li.*

[Reported from Cheshire as a casual, "by canal, Big-wood;" (*Whitehead*), *R. C. Rep.* 1877, p. 227.]

B. maximus, Desv.

A ballast casual.

4. In small quantity on Birkenhead ballast, 1871; (*Lewis*), *Flo. Liv.*

B. sterilis, Linn.*Barren Brome-grass.*

Under the hedges and in the dry wastes by the side of roads. *A.* or *B.* Summer. Native. Generally distributed. Personal records in 2, 3, 6, 7; second-hand records in 1, 2, 3, 4, 5, 6.

Rather local, though not infrequent in Central Cheshire: in 4 it seems common enough. It barely enters the mid-agrarian zone. It follows the turnpike rather than the township roads in my home district.

B. secalinus, Linn.*Rye Brome-grass.*

A weed amongst cereal crops. *A.* July. Colonist or native. In one shore and three Bucklow stations. Information imperfect. North plain and shore.

2. Waste ground near Broadheath; and wheat-fields near the Bollin, 1870; *Hunt, sp.* A common weed in cornfields at Mobberley; *Holland*. I gathered about twenty plants out of a small piece of Rye on Mr. Earl's farm, Marston (near Northwich), in a field which would be just about under the word "Marston" on the Ordnance Map. I have only seen this once in Cheshire.
4. A large tuft on the canal dredge-mounds, about three quarters of a mile north of Mollington Bridge, 1873. No Cheshire stations given in the Liverpool Floras: several recent Lancashire ones are specified in *App. Flo. Liv.*

B. racemosus, Linn.*Racemose Brome-grass.*

In meadows and damp pastures. *B.* Summer. Native. Information imperfect. Chiefly mid plain.

2. Meadow beyond Ashley by River Bollin, 1863, &c.; Near Bowdon, June 1869; *Hunt, sp.* In a pasture field at Pickmere, which lies next to the road (on the left hand) going from Marston, as marked on the Ordnance Map, to Hield Brow, and adjoins the trench which runs near the belt of willow-beds between the two Meres, 1866; Richmond Marsh, abundant.
3. Frodsham Marsh Meadows.
4. Tranmere; (*Watson*), *Hall, Flo.* (See *B. commutatus*, to which species other *Flo. Liv.* records are now placed.)
5. Field near Pulford Brook; Meadow between Blacon Point and the shooting-range.

Dr. Syme has seen specimens from Cheshire, *vide E. B. xi.*, p. 167.

B. commutatus, Schrad.*Confused Brome-grass.*

B. Summer. Native. Information imperfect. Thinly diffused inland. Frequent on the coast?

2. Broadheath, August 1860; *Hunt, sp.* (In Herb. as *secalinus*.) Plentiful by the hunting-path leading from Mr. Barber's Farm in Marston, between the Lennards and Smoker Wood, about 300 yards from the farm, in the rough grassy edge of a clover-field, through which the pathway led, 1867; By the path in Cotterill Clough.
3. Field by railway bridge west of Alvanley; Bridge Trafford.
4. Near Ledsham; *Brown*. In a field on the right-hand side of the road from Tranmere to Rock Ferry, nearer the former; (*Watson*), *Hall, Flo.* (*B. racemosus*.) The *B. racemosus* of Hall's Flora is the *B. commutatus* of more recent books; *Watson, MS. Notes*. On the canal dredge-mounds, three quarters of a mile north of Mollington Bridge, 1873; Meadow between Blacon Point and the shooting-range. *Flo. Liv.* says "fields and hedge-banks, frequent," which may likely enough be the case, but a few stations would be desirable.
5. The roadside between Lea Hall and Aldford; *Newbould and Webb*. By the roadside, Balderton Bridge to Lache Eyes, near Chester; Roadside waste near Gorstella; Roadside between Aldford and Lee Hall Farm; Roadside at Crooked Dee, north of Aldford; Roadside about a quarter of a mile east of Milton Green; Near Tattenhall.

I suspect the plants from near Grange Farm, Bowdon, labelled *commutatus* in *Hunt, Hb.* to be glabrous *mollis* partly and partly *eu-racemosus*.

B. mollis, Linn.*Soft Brome-grass.*

Roadsides; in meadows and pastures; on wastes, wall-tops, and the coast sandhills: a weed grass. *P.* June. Native. Generally distributed. Personal records in 1, 2, 3, 4, 7; second-hand records in 1, 2, 3, 4, 5, 6, 7.

β. subglaber.

2. The Hunt Herbarium contains specimens collected near Bowdon, and I have gathered it in the grassy edges of the turf in Tabley Front Garden. Both records fall in Hundred 2, but, of course, this glabrous variety of *mollis* will occur in all the rest.

B. arvensis, Linn.*Taper Brome-grass.*In cultivated fields. *A.* June, July. Alien.

1. Was growing abundantly in a cornfield near Northen in 1848; *Buxt. G.* Sparingly in a field near Hyde; (*Sidebotham*), *Ib.*
4. Waste places and newly-made roadsides near Birkenhead Docks, abundant in 1849; *Dick. Flo.*

I have not seen specimens, and consider the determination of the species doubtful in all three instances.

B. Schraderi, Kth.

Ballast casual.

4. Ballast by the Great Float, Birkenhead; *Lewis, sp.*
5. [Casual in Clutton's Gorse, Horton; *A. H. Wolley Dod.*]

B. lanceolatus, Roth.

A ballast casual.

4. In small quantity on Birkenhead ballast, 1871; (*Lewis*), *Flo. Liv.*

BRACHYPODIUM, Beauv.**B. sylvaticum, Beauv.***False Brome-grass.*

On hedge-banks and in thickets and woods. *P.* July. Native. Generally distributed. Personal records in 2, 4, 6, 7; second-hand records in 1, 2, 4, 5, 6, 7.

TRITICUM, Linn.**T. caninum, Huds.***Wood Couch-grass.*

In woods. *P.* July. Native. Information very deficient. North and south plain.

2. Near Bowdon (between Bowdon and Cotterill); *Hunt, sp.* and *Gr. Flo.* Here and there by Peover Brook, about a half-mile above Holford Hall, and about and beneath the bridge at the White Lodge, Tabley.
5. By the pathway near the river in the south portion of Eaton Hall wooded grounds, opposite to where some palings end; *Newbould and Webb.* Wooded banks of the Dee about two miles above Chester. [*Lowcross Gorse*; *A. H. Wolley Dod.*]
7. Congleton; (*J. Sidebotham*), *Lowe, Brit. Gr. tab. lxx. B.*

Rare, and never growing many plants together in my home district. Beginners must beware of awned specimens of *T. repens*, common enough about here.

T. repens, Linn.*Common Couch-grass.*

In cultivated ground and waste places, such as the borders of fields, by roadsides, amongst rubbish, &c. ; also in sandy grounds near the coast. *P.* July, August. Native. Generally distributed. Personal records in 1, 2, 3, 4, 6, 7; second-hand records in 1, 2, 3, 4, 5, 6, 7.

T. pungens, Pers.*Pungent-leaved Couch-grass.*

On hard wastes and on clay-banks close to or forming the coast-land. *P.* July, August. Native. Information imperfect. Probably on the three coasts. Shore.

4. By the path in the fifth field north of Parkgate, and in quantity onwards from Gayton Cottage, on the shore and on the adjoining clay-banks; *Webb*. On rocks within reach of the tide between the Old and New Ferry, Eastham; *Lewis, sp.* Half a mile north of Parkgate: observed there first in 1867; Amongst the débris about the Lime-kiln and Ferry-house at north end of Parkgate, 1873.

T. acutum, DC.

Misnomer probably.

Sandhills between New Brighton and Wallasey; (*Webb*), *App. Flo. Liv.* An extended acquaintance with the coast *Triticums* suggests that the above was not real *T. acutum*. It is Mr. Webb's opinion that what he gathered was a seaside form of *T. repens*. At any rate, until fresh specimens are obtained, it is better to leave *T. acutum* a desideratum. I have seen specimens of *acutum* from the Lancashire side of Mersey estuary, where it grows upon ground similar to part of that of our Cheshire coast, rendering it probable that the plant occurs with us.

T. junceum, Linn.*Sand Couch-grass.*

Amongst loose sand at or near the coast. *P.* June, July. Native. A west and north coast plant. Shore.

4. Occurs most of the way between Dove Point and Hoylake, being especially abundant at the latter place; *Brown*. About a third of a mile beyond the "Red Noses" from New Brighton: a flat between high-water line and the mass of the sandhills is covered with it; and very fine but sparing on the land side of the sandhills before they widen out under Wallasey; Frequent about Hoylake; and in some sandy enclosures under West Kirby; Also occasionally from Heswell Shore Heath to Gayton Cottage; *Webb*. Sandhills near where the road through Wallasey ends at the coast; In the hedge of a low sandy cop just out of Hoylake to the N.E.; The patches of sandy ground on the coast south of Parkgate to the colliery, and onwards nearly as far as Burton Point; "The Scrub," north of Gayton Cottage. The Floras state "common" along the range of coast sandhills: my experience hardly confirms this for the Cheshire side, and I consequently detail stations.

LOLIUM, Linn.**L. perenne, Linn.***Perennial Rye-grass.*In meadows, pastures, on banks, roadside wastes, &c. *P.* Summer.Native. Generally distributed. Personal records in 1, 2, 3, 6, 7;
second-hand records in 1, 2, 3, 4, 5, 6, 7.

I have never noticed in Cheshire the panicked variety so common about London: I see it is mentioned in *Buxt. G.* The state or variety called "*tenue*" is not uncommon.

L. italicum, A. Br.*Italian Rye-grass.*

Has now been used by farmers for about forty years, and is occasionally met with as a stray from the site of cultivation, *e.g.* (2.) Meadow near Hale Moss, 1861; *Hunt, sp.* [5. Lane behind Edge Farm; *A. H. Wolley Dod.*]

L. temulentum, Linn.*Common Darnel-grass.*

Amongst the crop in cornfields, &c. *A.* Summer. Colonist or native.
Rare. Cornfields, chiefly coast or mid plain.

1. Field near Gee Cross, Hyde; (*Sidebotham*), *Buxt. G.* and *Lowe, Brit. Gr. tab. lxxviii. A.*
2. Bowdon; *Gr. Flo.* Mobberley, common (*var. arvense*); (*Holland*), *Ib.* Plentiful in an oatfield between Peter Jackson's Farm and Toft Park, about the third field from the former (*var. arvense*), 1871.
4. The two earlier Floras say "occasionally," and *Flo. Liv.* gives "probably frequent," but none of the three name any (Cheshire) localities. The *var. arvense* I have seen for, say, ten years running in the cereal crop of the "Sandcroft" at Cloughton village: I have not chanced upon it elsewhere in Wirral; *Webb.*
7. Common in barley and stubble fields in the Congleton district: *Sidebotham.*

LEPTURUS, R. Br.**L. filiformis, Trin.***Sea Hard-grass.*

In salt marshes and on waste ground close to the coast. *P.* July, August. Native. Rare. Shore chiefly.

4. Wallasey Pool; (*H. Shepherd*), *Hall, Flo.* On the river shore between Tranmere and Rock Ferry; *Dick. Flo.* Parkgate; (*Higgins*), *Flo. Liv.* There is plenty on Bidston Marsh, more especially about the plashes at the east end: it does not catch the eye readily on account of the dense and vigorous surrounding herbage; *Webb.* In all suitable places from half a mile north of Parkgate to the Denna Colliery; and farther south in similar situations from Denhall to Burton Point; Also on Puddington Marsh.
5. On the river-wall below (under) Chester Castle—a single specimen.

L. incurvatus, Trin.

A ballast casual.

As a ballast plant with us once; *Brown.* Fidler's Ferry (Lancashire); (*Fisher*), *Flo. Liv.*

Elymus arenarius, Linn.*Sea Lyme-grass.*

The "Hoylelake" locality given by Mr. Lewis in *Flo. Liv.* proves to be the same as one on the West Kirby Shore, under the summer-house at the end of the field-lane that runs down from West Kirby Church, and the grass was planted there as an experimental protection against the tide encroachments. It is used on the Dutch sand-dunes for this purpose.

HORDEUM, Linn.**H. sylvaticum**, Huds.*Wood Barley.*

In cloughs. *P.* July. Native. Rare.

Cotterill Wood (Clough); *Buxt. G.*; (*Sidebotham*), *Lowc, Brit. Gr. tab. lxii. B. and sp.* 1870, and June 1868 (*Bickham, sp.*), *Hunt, Hb.*

This species and *Vicia sylvatica* are visible from the outside of Cotterill Clough; *Bickham*.

H. pratense, Sm.*Meadow Barley.*

In meadows near to the coast, and on the drier parts of salt marshes : occasionally in pastures, &c. somewhat inland. *P.* June, July. Native. Not infrequent as a shore plant : rare inland.

2. Near the Mersey on Richmond Marsh; Moss Side, near Moore.
3. The road margin of Horns Mill pond near Alvanley Station; *Webb*. Muddy banks between Helsby and Frodsham; Hapsford Moor, west of Helsby Station: Gowry Meadows opposite Plemstall.
4. On Bidston Marsh and in the neighbouring meadows; *Hall, Flo.* Moist pastures near Seacombe near Tranmere Pool; *Dick. Flo.* Bromborough; (*Dickinson*), *Flo. Liv.* The roadside a little distance out of Stoke towards Little Stanney; *Brown*. Near Wallasey Pool; By the turnpike between Hoylelake and Bidston, nearer the latter; and copiously in a long meadow sloping down from Puddington Hall Farm to the Marsh; Roadside, Gayton Mill, S.E.
5. The grass-grown margin of Shay Field Lane, half a mile along it from Calveley Hall; Again about Lea Hall Farm-yard approaching Aldford; Sparingly by the roadside between Pulford village and the old railway station: *Webb*. The lane to the Lache Eyes from Saltney; Rood Eye Cop and Dee Cop, Chester; River meadow, Bridge Trafford; Newton.

H. murinum, Linn.*Wall Barley.*

The edges of paths, the bottom of walls, under palings, and amongst rubbish by roadsides. *B.* Throughout Summer. Colonist or native. Local. Shore, except as a casual.

4. Frequent in Wirral; (*Watson*); *Hall, Flo.* Near the Seacombe Chemical Works; *Dick. Flo.* In plenty about the road-edges in the neighbourhood of the Poulton Half-penny Bridge; In the lane that passes due N. and S. under

the wall of Neston Churchyard: it seems to me to be more frequent in Wirral than these two stations represent, still I cannot from memory add to the number; *Webb*.

5. On the canal bridge near the Water Tower, Chester, and on the waste lands near it; *Holland*. On rubbish near the old walls, Chester; Below the walls near the Grand Stand copiously, 1870; The Rood Eye; About St. John's Church, &c.; As a casual on a dunghill at Lea Hall Farm near Aldford.

Strange that this common roadside weed of the South should be so scarce with us.

H. maritimum, With.

Seaside Barley.

Error. Misnomer. A ballast plant.

Bidston Marsh and near Wallasey Pool, abundant; *Dick. Flo.* In *Flo. Liv.* the first locality is entered on the authority of *Hall, Flo.*, but Mr. Hall expressly states that he had discovered the plant was *not H. maritimum*. The mistake is corrected in *App. Flo. Liv.* *H. maritimum* is not a plant of the Mersey Province, but a few specimens have recently been picked near Liverpool (*qy.* in Cheshire?), introduced with ships'-ballast.

H. glaucescens, Reich.

A ballast plant.

4. In very small quantity on Seacombe ballast, 1871; (*Lewis, Flo. Liv.*)

NARDUS, Linn.

N. stricta, Linn.

Common Mat-grass.

On heaths, moors, and in sterile pastures, especially in our upland districts. *P.* Summer. Ascends to 1837 feet. Native. Generally distributed. Personal records in 1, 2, 4, 7; second-hand records in 1, 2, 4, 7.

CONIFERÆ.

Taxus baccata, Linn.

Common Yew.

Frequent in country churchyards, some of the specimens being of great age. A sketch and description of that at Bowdon is given by the late Mr. W. Wilson of Warrington in *Phyt. i.* (1844), p. 1131.

Now and then the tree occurs in woods in Bucklow, but with no signs of nativity. I only remember it once in a hedge, or rather on a dry hedge-cop, opposite the farm which is marked but not named between the words "Sudlow" and "Wash" upon the Ordnance Map.

ACOTYLEDONES.

FILICES.

Hymenophyllum tunbridgense, Sm.

Requires confirmation.

1. On mossy rocks near Croyden (Crowden) Brook, the eastern extremity of Cheshire, and on the hills from Macclesfield to Buxton, in similar situations; (*Mr. Bradbury, B. G.*)

Cheshire is named as producing this species in *Moore, N. P. Ferns*, folio edition, probably on the authority of the above old record. It comes very near our borders, but does it actually grow on Cheshire ground?

PTERIS, Linn.**P. aquilina, Linn.***Common Bracken.*

On heaths, moors, and rough waste ground, and in open woods, cloughs, plantations, &c. *P. Fr.* Autumn. Ascends to 1500 feet. Native. Generally distributed. Personal records in 1, 2, 3, 4, 5, 7; second-hand records in 1, 2, 3, 4, 5, 6, 7.

CRYPTOGRAMME, R. Br.**C. crispa, Br.***Mountain Parsley-Fern.*

On rocks and walls (millstone-grit) in the upland districts. *P. Fr.* Summer. Native. Confined to a small hilly tract in the north-east of the county. Hills.

1. On the top of Tag's Ness, a hill near Macclesfield; (*Mr. Bradbury*), *B. G.* (Recent confirmation would be desirable.) On the high moorlands beyond Staleybridge; *Gr. Flo.* In a stone wall on a hill-road which ascends in a westerly direction just at the George Inn at Woodhead.

LOMARIA, Willd.**L. spicant, Desv.***Northern Hard-Fern.*

On banks, and ditch- or stream-sides on a heathy or peaty soil, and in adjoining plantations. *P. Fr.* late Summer and Autumn. Ascends to 1500 feet. Native. Generally distributed. Personal records in 1, 2, 5, 7; second-hand records in 1, 2, 3, 4, [5], 6, 7.

ASPLENIUM, Linn.**A. Ruta-muraria, Linn.***Wall-rue Spleenwort.*

In the mortar and interstices of old walls, &c.; with us seldom on living rock. *P. Fr.* throughout the year. Native. Thinly but equally distributed throughout.

1. Harden (or Arden) Hall, near Reddish; *Wood, Flo.* Bridge over the River Etherow, about two miles from Mottram; Marple Hall; *Buxt. G.* Near Wimslow, on an old wall between Wimslow and Lindow Common; *Buxt. G.* ed. ii. Lyme Hall; *Ib.* Alderley Churchyard; *Gr. Flo.* The walls of Mottram Church; (*Herb. Tinker*), *Baker.* Taxal Churchyard, very sparingly; Walls of Pott Shrigley Churchyard; *Webb.*
2. Old wall opposite to the park wall, Dunham; *Buxt. G.* Mobberley Old Hall; Lymm Rectory wall; *Gr. Flo.* Boathouse, Tabley Lake, abundant.
3. In one corner of the park wall and one corner of the terrace wall, Oulton Park; *Egerton.* On Overton Church and the wall surrounding the graveyard plentifully; (*Robinson*), *L. N. J.* p. 172. Beeston Castle, sparingly.
4. "Red" and "Yellow Noses" (New Brighton); (*S. Thompson*), *Phyt.* i. p. 481. On old walls about Upper Tranmere; On Bebbington Church; *Hall, Flo.* Very sparingly in West

Kirby village; *Webb*. (*Flo. Liv.* says "frequent" and does not specify localities.) Wall along the Soughall road, out of Chester.

5. On the escarpment of the Peckforton Hills, with *A. Adiantum-nigrum* (q.v.); Chester Walls; Waverton, N.W.; Old walls about Christleton; Grosvenor Bridge.
7. Higher Peover, on a wall near the Hall; In a high brick-wall facing the roadside, west of Jodrell Hall.

A. Trichomanes, Linn.

Common Spleenwort.

In the interstices and mortar of old walls, on stone fences, &c.; rarely on hedgerow banks. *P. Fr.* through the year. Native. Rare. Chiefly hills and north plain.

1. Near Marple Hall; *Bux. G.* Plentiful on a wall near Mr. Awkwright's Mill, Marple Bridge; (*Mr. Sidebotham*), *Gr. Flo.* About Bramhall; (*Mr. Karron*), *Ib.* Barden Bridge, over the Bollin, about half a mile from Wimslow Station; *Gr. Flo.* A wall in the new turnpike roadside, a mile out of Disley, towards Whaley Bridge.
2. Mobberley Mill; (*Mr. Holland*), *Gr. Flo.* Appleton, near Latchford; (*Miss F. Brownell*), *Ib.*
3. In the well at Beeston; (*W. Wilson*), *Phyt. i.* p. 481. A single tuft has long grown in a corner of the Park wall, Oulton; *Egerton*.
4. Banks in a lane between Oxton Heath and the Woodchurch road; (*Rev. H. H. Higgins*), *Proc. Liv. L. and P. Soc. xii.* (1858), p. 69.
5. In the crevices of the exposed rocks at the top of Bickerton Hill.

A. viride, Huds.

Old record requiring confirmation.

Among stones and rubbish thrown out of the quarries on Carr Edge; (*Mr. Bradbury*), *B. G.* (*Qy.* where is Carr Edge?)

A. marinum, Linn.

Sea Spleenwort.

On rocks near the sea, sometimes deep down in the crevices. *P. Fr.* through the year. Native. Almost entirely confined to the Wirral coast. Shore.

2. Runcorn; *Dick. Flo.* (Definite particulars would be desirable.)
4. About the rocks at the entrance of the Mersey on the Cheshire side; (*Watson*), *Francis*, ed. i. (1837). Abundant on the rocks at Hilbre Island; *Hall, Flo.* Sparingly about Bromborough Pool; (*Skellito*), *Dick. Flo.* West Kirby; (*Skellon*), *Ib.* I have seen this in the four recorded Wirral localities, finest at West Kirby in a well-shaft: there are numbers of seedlings in the recesses above the shore at Hilbre, but the grown plants are reduced to a small quantity, which the telegraph official protects; *Webb*. In crevices of the rocks, often out of reach, on the east side of Middle Hilbre; Also on the same side of the Greater Island, not far from the buildings upon it (1867).

A. Adiantum-nigrum, Linn.*Black Spleenwort.*

On sandy hedge-banks, in the spaces of loose-built cops and on sand-stone rock. *P. Fr.* Summer and Autumn. Native. Very thinly and locally diffused throughout, with headquarters in South Wirral, Broxton and Eddisbury.

2. Formerly (about 1820) on an old wall adjoining Sale Bridge; *Buzt. G.* ed. ii.
3. In a narrow lane near Oulton Park; *Egerton*. Walls of Beeston Castle; Dunham-on-the-Hill, sparingly.
4. In shady lanes between Woodside and Oxton; *Hall, Flo.* (Now of course destroyed.) In lanes about Eastham, frequent; *Ib.* Plentiful on an old wall about a hundred yards beyond Bidston Church; (*Shillito*), *Dick. Flo.* (*Qy.* now there?) In shady lanes between Rock Ferry and Oxton; *Dick. Flo.* Lane at Higher Tranmere; (*Fisher*), *App. Flo. Liv.* A single tuft at the bottom of the hedge-bank by the roadside, near Backford House.
5. The supporting wall on the west side of Carden Cliff Wood, between Carden and the main road; *Webb*. Rather plentiful in one place in clefts of a bare red-sandstone escarpment on the Peckforton Hills, near Bickerton Hill; Rocks by the Dee at Heron Bridge, Chester, sparingly. [Lanes about Kidnal; *A. H. Wolley Dod.*]
7. In the lane leading down to Lower Peover Church House, very sparingly; I have no reason to suspect the station, to which I was directed by Mr. R. Holland: still there 1870: I have never seen it elsewhere in my home district.

ATHYRIUM, Roth.**A. Filix-fœmina, Bernh.***Common Lady-Fern.*

In moist, sheltered woods, cloughs, stream gullies, and on deep hedge-banks; also in the open on hill-sides, moors, and about mere margins, &c. *P. Fr.* Summer and Autumn. Ascends to 1400 feet. Native. Generally distributed. Personal records in 1, 2, 3, 5, 6, 7; second-hand records in 1, 2, 3, 4, 5, 6, 7.

Var. incisum, Roth.

1. Frequent in the Staleybridge district with the type; *Baker*.
5. [Upper Wood, Edge; *A. H. Wolley Dod.*]

Var. molle, Moore.

2. Woods, Bowdon and Lymm; *Hunt, sp.*

Var. rhæticum, Roth.

1. On the high ground about Disley, and frequent through the Hundred; *Webb*.
4. Frequent: about equally so with the type; *Webb*.
6. The north margin of Marbury Little Mere, a very narrow-fronded form; *Webb*.

Ceterach officinarum, Willd.

Old record requiring confirmation.

Old walls at Carr Edge, going to the stone-quarries; (*Mr. Bradbury*).
B. G.

SCOLOPENDRIUM, Sw.***S. vulgare, Sym.***

Common Hart's-tongue.

On shady hedge- and ditch-banks, about the outskirts of and by the streams in wooded cloughs, amongst stone-work, particularly if moist and shaded, &c. *P. Fr.* through the year. Native. Very thinly and locally diffused throughout.

1. In the moat at Harden (or Arden) Hall; *Wood, Flo.* Marple Wood; Dingle near Marple Bridge; *Buxt. G.* Styal Wood; *Gr. Flo.*
2. Cotterill Wood; *Wood, Flo.* Dingle near the bridge over the Bollin, below Dunham Park; *Buxt. G.* Very fine and abundant in Burley Hurst Wood, Mobberley; Lymm; *Gr. Flo.* Stream-side at Baguley; *Hunt. sp.* and *Gr. Flo.* In the lane leading from Tabley Old Hall, in the stone-work of an old mill-dam; Plentiful in the trenches of the same wood as far as the White Lodge.
4. Banks of the Birket between Great Meols Station and Newton Car; *Brown.* In shady lanes between Woodside and Oxton; *Hall, Flo.* (Now of course destroyed.) "Frequent" according to *Flo. Liv.*, and localities not specified.
5. Abundant on both sides of the bridge near Stapleford Mill crossing the Gowy into Eddisbury Hundred; *Brown.* [Planted about Edge, but it may be native in the woods: it certainly is not at all common; *A. H. Wolley Dod.*]
7. In Wagg Lane, Congleton; (*Watson*), *Francis.* Near Congleton, probably quite local; *Watson.*

CYSTOPTERIS, Bernh.***C. fragilis, Bernh.***

Brittle Bladder-Fern.

Between the blocks of stone fences. *P. Fr.* Summer, Autumn. Native. Rare. Hills.

1. A fine plant in a wall by the new turnpike road, say 1½ mile from Disley towards Whaley Bridge.
2. Rostherne Church; *J. B. Wood, &c.*, in *Phyt. i.* p. 283 and 480. Destroyed there between 1849 and 1859 (*Buxt. G. ed. i.* and *ed. ii.*). I saw it there about 1855: it grew in the stone wall of the churchyard before you come to the lych-gate.

ASPIDIUM, Sw.***A. aculeatum, Sw.***

Prickly Shield-Fern.

On hedge-banks, and on banks in somewhat open woods. *P. Fr.* Summer, Autumn. Native. Thinly distributed throughout.

1. Marple Woods; (*J. B. Wood*), *Phyt. i.* p. 480. Rocky dingle near Marple Bridge; *Buxt. G.* In the same wood at Morley in which the Oak-Fern grows (*q.v.*); *Holland.*

2. In Cotterill Wood; *Wood, Flo.* Preston (-on-the-Hill); *Moore, N. P. Ferns*, i. p. 129.
3. Sparingly on a hedge-bank in the fields between Mouldsworth and Manley; *Brown.* Hedge-bank between Bridge Trafford and the railway bridge.
4. In shady lanes between Woodside and Oxton; *Hall, Flo.* (Now of course destroyed.) In a lane leading to Heswell; (*Miss E. Potts*), *ib.* About Prenton; Oxton; Thurstaston; *Dick. Flo.*
5. Hedge-bank, &c., between Waverton village and the canal; Abundant in the upper part of the hollow at Guilden Sutton; *Brown.* The lane east of Guilden Sutton.
6. On a hedge-bank a short distance from Buerton Chapel towards Kinsey Heath: the only time seen hereabouts; *Webb.*
7. In the deep ditches by the roadside at the crest of Byley Brows: a good deal of it hereabouts.

A. lobatum, Sw.*Close-leaved Shield-Fern.*

1. Woods in Marple Vale; Bredbury Wood; *Buxt. G.*
2. Near Cotterill Woods, 1857; *Hunt, sp.* Ashley Wood; *Gr. Flo.* Cotterill Wood and its neighbourhood, plentiful; *Buxt. G.* and *Hunt, sp.* In the lane by Bass Bank Aqueduct, Statham, near Lymm; (*Miss F. Brownell*), *Gr. Flo.* Preston (-on-the-Hill); *Moore, N. P. Ferns*, i. p. 132.
4. Frequent near Bromborough Pool; (*Skellon*), *Dick. Flo.*
5. [Edge Woods; Lowercross Gorse; *A. H. Wolley Dod.*]

A. angulare, Willd.*Angular Shield-Fern.*

In woods, dingles, and on shaded hedge-banks. *P. Fr.* Summer, Autumn. Native. Information imperfect. Probably thinly diffused throughout.

1. Plentiful in Marple Wood; (*J. B. Wood*), *Phyt.* i. p. 481. Warren Wood, half-way between Stockport and Marple, plentiful; *Buxt. G.*
2. Two miles south of Warrington, in a dingle with *P. Dryopteris*; (*W. Wilson*), *Phyt.* i. p. 480. At intervals in a line of wood from the bridge over Waterless Brook, on the Manchester road, Tabley, to past the White Lodge, especially by a little stream which joins the brook from Tabley Moat.
4. Abundant in the lane between Landican and Little Storeton in many places; In the lane leading from Willaston Toll-gate to Hargrave Hall; *Brown, sp.* Wood at Bromborough; (*T. Sansom*), *Dick. Flo.*

NEPHRODIUM, Rich.**N. Filix-mas, Rich.***Male Buckler-Fern.*

In woods, along deep hedge- and ditch-banks, and in other shady situations, occasionally in the open. *P. Fr.* Summer and Autumn. Native. Generally distributed. Personal records in 2, 7; second-hand records in 1, 2, 3, 4, 5, 6, 7.

Var. affine, Bab.

1. Frequent about Staleybridge; *Baker*.
2. Near Cotterill Wood; *Hunt, sp.*
5. [Edge Green; *A. H. Wolley Dod.*]

[Var. paleaceum, Moore.

5. Edge Green; *A. H. Wolley Dod.*]

N. cristatum, Rich.*Crested Buckler-Fern.*

In the sphagnous parts of mosses. *P. Fr.* Summer, Autumn. Native.
Confined to two detached mosses, one in mid, one in south plain.

3. Hatchmere: has I fear entirely disappeared through the rapacity of collectors; *Egerton*.
6. Wybunbury Bog; (*G. Pinder*), *Phyt. i.* (1843), p. 481. Ditto, July 10, 1874; *Fraser, sp.* and *Thompson, sp.* On the east side of the moss, in a very wet place; *Webb*.

N. uliginosum, Hook.*Ambiguous Buckler-Fern.*

3. [Achmere, Delamere Forest; (*J. Fraser*), *E. C. Rep.* 1884, p. 119, and *R. C. Rep.* 1884-86, p. 137. Mr. J. G. Baker and Dr. Arnold Lees consider this to be only a form of *N. spinulosum*.]
6. Wybunbury Bog; *G. Pinder* and *J. Lloyd* (see *Newman* in *Phyt. iii.* (1849), p. 678, and *Lloyd* in *Phyt. N.S. i.* (1855), p. 178).

N. spinulosum, Desv.*Prickly Shield-Fern.*

On the mosses, in open damp woods, the swampy margins of meres, and shady ditch-banks. *P. Fr.* Summer, Autumn. Native. Thinly but evenly diffused inland. Almost absent from the shore.

1. Big Wood, near Staley Hall, abundant; *Buxt. G.* Millbrook Great Wood, near Staleybridge (*qy.* same station as preceding?); (*Herb. Tinker*), *Baker* (but not seen there in 1874).
2. Knutsford Moor; (*W. Wilson*), *Phyt. i.* p. 481. Baguley Moor, rare; (*J. B. Wood*), *Ib.* p. 283. Ditch-banks near Carrington Moss; *Buxt. G.* and *Hunt, sp.* Hale Moss; *Gr. Flo.* and *Hunt, sp.* Ashton Moss; (*H. Buckley*), *Moore, N. P. Ferns*, i. p. 221. Knutsford Lower Moor, N.E. side by the main trench.
3. Newchurch Bog, near Over; (*W. Wilson*), *Francis. Petty Pool*; (*W. Wilson*), *Phyt. i.* p. 481. Fish Pool, Delamere; Moss near the keeper's house at Oakmere; Hatchmere, north swamp; Swamp on Newchurch Common.
4. Stanney Wood, N.W. of Stoke; *Brown and Webb.* Moorland near Birkenhead, July 1850; *Fras. Brent, sp., fide Watson.* (Now extinct there?)
6. Wybunbury Bog; (*G. Pinder*), *Phyt. i.* p. 481, and (*Wilson, sp.*), *Hunt, Hb.* The margin of "Little Mere," near Marbury; *Webb*.

7. By a ditch-side near the Goosetrey Road, south of GaH plantation, Rudheath; and in Peover Heath Cover in the trench that crosses it.

N. dilatatum, Desv.

Broad-fronded Buckler-Fern.

In moist woods, sheltered hedge and ditch-banks, and about the borders of heaths and peat-lands. Often about old timber stumps. *P. Fr.* Summer, Autumn. Ascends to 1750 feet. Native. Generally distributed. Personal records in 1, 2, 3, 6, 7; second-hand records in 1, 2, 3, 4, 5, 6, 7.

Var. micromerum, Moore.

On decayed tree trunks in the remains of a swampy wood at the head of the stream that passes the Furness Vale; *Webb fide Moore.*

N. Thelypteris, Desv.

Marsh Buckler-Fern.

On the mosses, and on the sphagnum swampy parts of heath-lands. *P. Fr.* Summer, Autumn. Native. Rare. In a few detached mosses. Plain.

2. Knutsford Moor; (*W. Wilson*), *Francis*. On the borders of Rostherne Mere; *Wood, Flo.* A single tuft on the mere borders opposite the church; (*Hunt*), *Gr. Flo.* Grows plentifully both in the higher and lower moors at Knutsford; *Holland*. Knutsford Moor, in a trench which runs across the middle, and again among some small bushes in the most swampy part: an old station.
3. Newchurch Bog, near Over, where it fruits plentifully; Also Petty-pool, near Over; (*W. Wilson*), *Francis* and *Phyt. i.* p. 481.
4. [Bar Mere; *A. H. Wolley Dod.*]
6. Wybunbury Bog; (*G. Pinder*), *Phyt. i.* p. 481. A patch of three or four square yards on the north side, 1874; *Webb*.

N. Oreopteris, Desv.

Mountain Buckler-Fern.

By the sides of roads and on the banks of watercourses in the rough elevated districts, and on dry cops in ericetal neighbourhoods. *P. Fr.* Summer. Autumn. Native. Generally diffused in hills and north plain. Scanty or wanting elsewhere.

1. Rough sloping pastures on the bank of the Goyt about half-way between Stockport and Marple Aqueduct, in great profusion; Arncliffe Wood (Werneth), near Compstall Bridge; *Buxt. G.* Apethorne (south of Hyde); (*Sidebotham*), *Gr. Flo.* Frequent through the dales of the Tame and the Etherow, north and east of Staleybridge; *Baker*. Bour Flat and Ogden Clough; *Walker*. By the roadside between Goyts Bridge and Jenkin Chapel; The banks of Tod's Brook above Whaley Bridge; Near Knipe Farm; Overton Farm; and Err Wood Hall (all south of Taxal); Deep gully descending from Shutlings Low to the road to Forest Chapel, &c.; *Webb*.
2. Rostherne; *Gr. Flo.* Lane at Ashley, 1858; *Hunt, sp.* Almost

everywhere about Mobberley; *Holland*. Common but rather local: e.g. Hedge where Sudlow Lane joins the Knutsford road a mile west of Knutsford, and the same distance from Tabley.

3. Nearly destroyed in the Oulton neighbourhood through the rapacity of collectors; *Egerton*.
4. Frequent by the sides of sandy lanes near Bidston Hill and Oxtun; (*Skellon*), *Dick. Flo.*; also (*F. Brent*), *Moore, N. P. Ferns*, i. p. 173. Two of the localities brought forward in *Flo. Liv.* from *Dick. Flo.*, under Cheshire, belong to Lancashire. I have never met with the plant in Wirral, but I have not specially looked for it; *Webb*.
5. Broxton; *Egerton*.
7. In fair quantity on a bank by the rough ascent to Congleton Edge, passing Limekiln Farm; *Webb*. Hedges on bank enclosing Peover Heath on the north.

A prevalent and characteristic plant of Eastern and Central Cheshire, becoming rare as we approach the coast.

POLYPODIUM, Linn.

P. vulgare, Linn.

Common Polypody.

On dry shaded hedge-banks; on rocks, roofs, walls, decaying tree trunks, &c. Sometimes at considerable elevation on rough-barked living timber. *P. Fr.* Summer, Autumn. Native. Generally distributed. Personal records in 2, 3, 7; second-hand records in 1, 2, 3, 4, 5, 6.

A serrated variety near Frodsham; (*W. Wilson*), *Phyt.* i. p. 480.

Var. cambricum, Willd.

"Mr. E. J. Lowe has communicated this from a wood near Macclesfield;" *Moore, N. P. Ferns*, folio ed. (1855). "Found recently in a wood near Macclesfield;" *Lowe, Ferns* (1865).

P. Phegopteris, Linn.

Beech Polypody.

In wooded cloughs, and on moist shaded rock-ledges and banks, chiefly in the upland districts. *P. Fr.* Summer, Autumn. Native. Fairly diffused, chiefly in uplands. Rare in the plain.

1. Early Bank Wood, near Staleybridge; (*Mr. Bradbury*), *B. G. Werneth*; (*J. Sidebotham*), *Phyt.* i. p. 480. Hollins Clough, near Staley Brushes; Dan-bank Wood, near Marple; *Bux. G.* Near the tunnel under the canal, Bredbury Wood; *Sidebotham, MSS.* Dell at Marple, about a hundred yards from the bridge; (*Mr. I. Williamson*), *Gr. Flo.* The south steep bank of the stream that supplies the reservoir at Whaley Bridge; *Webb*. On some rocks near Little Crowden Brook, say 300 yards above where the Crowden Brooks meet.
2. A few small plants grew in Burley Hurst Wood, Mobberley, some ten years ago: they were apparently living under difficulties, and I think they have now died out; *Holland*.

4. Side of lane on the road to Heswell Hill from Claughton ;
(*Miss Grundy*), *Flo. Liv.*

7. Mow Cop ; (*G. Pinder*), *Phyt.* i. p. 480.

Rare and very local in Low Cheshire ; more common in the hilly districts.

P. Dryopteris, Linn.

Oak Polypody.

In steep woods and wooded cloughs, as also on moist sheltered rock-
ledges and walls. *P. Fr.* Summer, Autumn. Native. Chiefly in
the upland districts.

1. Early Bank Wood, near Staleybridge ; (*Mr. Bradbury*), *B. G.*
Arnicroft Wood, near Compstall Bridge ; *Buxt. G.* Bred-
bury Wood (near Hyde) ; (*Sidebotham*), *lb.* In the clough
near Marple Bridge with *P. Phlegopteris* ; (*Mr. I. William-*
son), *Gr. Flo.* "Burley Hurst Wood, Mobberley ;" *Gr. Flo.*
It is scarcely Burley Hurst Wood, but close to it, and
really in the township of Morley : here it grows in a loose
loamy sand to a great size, sometimes producing fronds
eighteen inches high, and there is any quantity of it ;
Holland. Ledges of rock along the course of Shooters
Brook under Err Wood Hall ; On damp rocks bordering
the carriage-road to Goyts Bridge ; *Webb.* In the wood
near the moss-house by the Wizard Inn, Alderley Edge ;
(*Miss Hopps and Miss Beacall*), *Add. Gr. Flo.* p. 575.

2. Two miles south of Warrington (Appleton), attaining a very
large size ; (*W. Wilson*), *Phyt.* i. p. 480. Cotterill Clough ;
J. Sidebotham, lb., p. 477. (This station is not given in
the Floras.)

4. Landican, 1865 ; (*J. Armstrong*), *Proc. Hist. Soc.* vi. (1866),
p. 263. Above the rails, in the interstices of the low
supporting wall of the platform at Ellesmere Port Station,
on the "up" side : a very eccentric place for the plant to
grow in, but it probably occurs elsewhere in the neigh-
bourhood, and the railway cuttings suggest themselves ;
Webb and Brown.

7. A single stunted plant in the wall by the canal-side near
Wardle Lock at Middlewich ; *Jebb, sp.*

Analogous in distribution to the preceding, but descends appa-
rently more into the plains.

OSMUNDA, Linn.

O. regalis, Linn.

Royal Osmund-Fern.

In the trenches on and adjoining peaty mosses, sometimes in hedge-
rows and thickets where mosses have existed ; similarly in pit-sides
surrounded by well-farmed land, but evidently the remains of an old
marsh flora ; also swampy sides of meres. *P. Fr.* late Summer,
Autumn. Native. Fairly diffused in the inland lowlands ; absent or
very rare in the west and on the shore. Plain.

1. Bogs near Gawsorth ; (*Mr. Bradbury*), *B. G.* Offerton Rough,
near (S.E. of) Stockport ; *Buxt. G.* Near Chelford ; *Gr. Flo.*
Lindow Common, N.W. side.

2. By Tatton Mere; *Old Herbal*.¹ Baguley Moor; About some old ponds near Timperley Bridge; *Wood, Flo.* Sparingly on Bowdon Moss; (*Sidebotham*), *Phyt.* i. p. 479. Carrington Moss; (*J. B. Wood*), *Phyt.* i. p. 481. Hale Moss; *Buxt. G.* Margin of Rostherne Mere; *Ib.* and *Hunt, sp.* Fine and plentiful in the lane leading from Warburton Moss towards Dunham Station; About Knutsford; *Gr. Flo.* In many places: *e.g.* On Tabley Hill; On Knutsford Moor; Pits, north side of Lennards Wood; Pickmere Moss, &c.
3. Is becoming scarce in the district around Oulton and Delamere Forest through agricultural improvements; *Egerton.* Hatchmere, N.W. swamp.
4. In a small thicket about a quarter of a mile beyond Bebbington Church; *Hall, Flo.* (Now destroyed; *Flo. Liv.*) Raby; (*Field Club*), *Flo. Liv.* By Bromborough Candleworks; (*W. H. Hatcher*), *Ib.* I know this only by information as a Wirral plant; *Webb.*
6. Wybunbury Bog; (*G. Pinder*), *Phyt.* i. p. 481. In tolerable quantity scattered over Blackwater Moss, N.E. of Audlem; The north margin of Little Mere, near Marbury; *Webb.*
7. Smethwick, near (west of) Congleton; (*G. Pinder*), *Phyt.* i. p. 481. About Holmes Chapel, &c.; *Gr. Flo.* In the main trench, and beside it, on Peover Heath, &c.

Is fairly general throughout the county, wherever the right ground for it occurs, and it has not been extirpated by fern-gatherers, or the proximity of urban neighbourhood.

OPHIOGLOSSEÆ.

OPHIOGLOSSUM, Linn.

O. vulgatum, Linn.

Common Adder's-tongue.

In moist meadows, pastures, especially near the banks of streams and open plantations. *P. Fr.* Summer. Native. Thinly diffused throughout.

1. Field behind Heawood Hall, Alderley; (*Watson*), *Francis.* Meadows in Reddish Vale; *Buxt. G.* Styal; *Gr. Flo.* Lawn at Norcliffe; (*Mr. M'Laren*), *Ib.* In high pastures near Werneth Low; *Sidebotham, MSS.* Winter Hill, Micklehurst; *Walker, sp.* In considerable quantity in my garden at Endsleigh, Alderley Edge; *Bickham.* Banky pastures by Water Meeting Farm, near Romiley; *Thos. Chapple.*
2. Meadow on the left bank of the Mersey, about a quarter of a mile above Jackson's Boat; *Buxt. G.* Ashley woods and meadows; *Hunt, sp.* Skirts of Cotterill Clough; *Gr. Flo.* and *Phyt.* N.S. vi. p. 249. In a great many fields in Mobberley: very plentiful in the hilly fields close to the

¹ "Juxta Tatton Mear propè Knutsford provenit;" *Old Herbal*, as quoted in *Phyt.* i. p. 701.

Bollin; *Holland*. Meadow below the White Lodge, Tabley Park; With *Botrychium Lunaria* at Plumbley; Copiously in the Black Pit, Tabley Garden Wood, first seen there 1870, &c.

3. In one spot on the margin of the lake in Oulton Park; *Egerton*.
4. A field by the new Chester road beyond Tranmere; (*Watson*), *Hall, Flo.* Meadows near Woodside; (*H. Shepherd*), *Ib.* Near Bidston; *Ib.* Bidston Marsh; (*R. Tudor*), *Dick. Flo.* Near Eastham Ferry; (*Miss Grundy*), *Proc. Hist. Soc.* vi. (1866), p. 263. Meadows near Leasowe; (*H. E. Smith*), *Ib.* New Brighton; (*J. T. Towson*), *Ib.* also *Dick. Flo.* In the wood on west side of Bidston Hill, sparingly; (*B. Cooke*), *Webb*.
5. "The Meadows," Chester, in the third field; *The Chester Society*. Wooded old bank of the Dee, opposite Heron Bridge.
7. Davenport and Somerford; (*G. Pinder*), *Phyt.* i. p. 481. In a meadow between Lower Peover Church and Lower Peover Mill.

General in the right sort of meadows; greatly overlooked from being only findable about haytime. Nearly always to be found if properly looked for.

BOTRYCHIUM, *Sw.*

B. *Lunaria*, *Sw.*

Common Moonwort.

In dry hilly mountain or heathy pastures, and in grassy wastes inside of the coast sandhill range. *P. Fr.* Summer. Native. Locally diffused throughout. Information from Nantwich and Northwich wanting.

1. Fields about Hooly's Folly, near Macclesfield; (*Mr. Bradbury*), *B. G.* Alderley Edge; (*Rev. I. Bell*), *Watson in Phyt.* i. p. 481. Hilly pastures near Mottram; Near Reddish Mill; *Buxt. G.* Winter Hill, Micklehurst; *Walker*.
2. Tatton Park; *Old Herbal*.¹ In plenty in Tatton Park: enter at the Dale Gate, and walk straight towards the nearest part of the mere: should be sought for before May 12th (*Ley Day*), as after that it is soon destroyed by the cattle; *Holland*. In a field at Plumbley, with the lane called Pepper Street to its north, Cheshire Midland Railway to its east, and Peover Brook to its south.
3. Near Over, attaining a great size and often branched; (*W. Wilson*), *Phyt.* i. p. 481.
4. Among the sandhills at New Brighton; *Hall, Flo.* Near Claughton village (two localities specified); (*Webb*), *Proc. Liv. L. and P. Soc.* xv. (1861), p. 13. Abundant in a field between Little Meols and Grange; And in a meadow between Great Meols and the Dove Marks, June 1865;

¹ "In agris magnis ubi semiter est ducens ab Knutsford ad Old Tatton, enter the Lane et the Mear, non impossibile invenire erat anno Dom 1747;" *Old Herbal*, as quoted in *Phyt.* i. p. 701.

(*H. E. Smith*), *Proc. Hist. Soc. N.S.* vi. (1866), p. 264. Racecourse at Hoylake; (*J. T. Towson*), *Ib.* Among gorse on waste ground near Claremont School, Wallasey; (*H. E. Smith*), *Ib.*

5. [Field between Duckington and Bickerton Hill; Rare in Edge Park; *A. H. Wolley Dod.*]

Probably appears more rare than it really is, but is certainly more local than *Ophioglossum*.

LYCOPODIACEÆ.

LYCOPODIUM, Linn.

L. clavatum, Linn.

Common Club-moss.

In hilly pastures and on heaths. *P. Fr.* Summer, Autumn. Native. Rare. Chiefly hills.

1. On Jackson Edge, above Disley; Used to grow in a pasture above the River Tame, at the end of Bredbury Wood, near Apethorne; *Sidebotham*. Moor behind the Brushes, Staley-bridge; (*Herb. Tinker*), *Baker*.
3. Delamere Forest; (*W. Wilson*), *Phyt.* i. p. 481. In two places on the Forest, one near the North Lodge at Oulton; *Egerton*.
4. Storeton; (*Dr. Collingwood*), *Proc. Liv. L. and P. Soc.* xv. (1861), p. 14. Patrick Wood, Bromborough; (*Fisher*), *Flo. Liv.* Not seen the last few years at Bromborough; *Webb*.

L. alpinum, Linn.

Alpine Club-moss.

In mountain pastures and on the high moorlands. *P. Fr.* Summer. Native. Localities old and dubious.

1. Moors above Micklehurst; (*Mr. Bradbury*), *B. G. Woodbank Farm, Bredbury*; (*Mr. I. Williamson*), *Gr. Flo.* (This latter record certainly requires confirmation, and it would be interesting to know if we really have the plant on Cheshire ground above Micklehurst.)

L. inundatum, Linn.

Marsh Club-Moss.

In moist or wet places on heaths and peat-lands, particularly where the sod has been removed. *P. Fr.* Summer, Autumn. Native. Rare and local. Shore. North and mid plain.

1. Lindow Common, sparingly; *Buxt. G. ed. ii.*, and (*Bickham*), *Proc. Manch. L. and P. Soc.* viii. (1869), p. 169.
2. Baguley Moor; Once plentiful at Bartington Heath; (*W. Wilson*), *Francis*. Now destroyed at the former place; *Bickham* (1869).
3. Oakmere, Delamere Forest; (*W. Wilson*), *Francis*, and *Phyt.* i. p. 481. At the edge of the Fish Pool, Delamere; *Bickham*. By the side of Oakmere, N.W. margin: two or three plants, 1864; Also N.E. margin, 1867.

4. In a marshy spot at the commencement of Bidston Heath: *Hall, Flo.* Abundant in swampy places on Heswell Hill; In a marsh near Thurstaston; (*Skellon*), *Dick. Flo.* On Oxtan Heath, in a moist and bared patch; (*H. E. Smith*), *Proc. Hist. Soc. i. N.S.* (1861), p. 69. I saw it in very small quantity on Oxtan Heath as late as 1872: strange I have never come across it at Heswell, or elsewhere in Wirral; *Webb.*

L. Selago, Linn.

Fir Club-moss.

On heaths. *P. Fr.* Summer, Autumn. Native. Rare. Shore and south plain.

4. Very sparingly by the side of Bidston Stone-quarry; *Hall, Flo.* and (*R. Tudor*), *Dick. Flo.* (The locality now destroyed; *Flo. Liv.*) Heswell Hill, sparingly; (*Fisher and Webb*), *Proc. Liv. L. and P. Soc. xv.* (1861), p. 13.
5. [Bickerton and Peckforton Hills; *A. H. Wolley Dod.*]

SELAGINELLEÆ.

SELAGINELLA, Beauv.

S. selaginoides, Gray.

Lesser Club-moss.

In moist places on sandy short-turfed ground near to the coast. *P. Fr.* Summer, Autumn. Native. Confined to the north and west coast. Shore.

4. Heswell Hills; (*Miss E. Potts*), *Hall, Flo.* New Brighton, July 1849; *Fras. Brent, sp. fide Watson.* Moist places between New Brighton and Wallasey; *Dick. Flo.* I feel pretty sure that I have seen this on the west side of Hoylake racecourse, but it being rather frequent on the Lancashire coast in similar situations, I have made no definite record; *Webb.*

MARSILEACEÆ.

PILULARIA, Linn.

P. globulifera, Linn.

Creeeping Pillwort.

The shallow edges of pools and ponds on peat or heath lands. *P. Fr.* Summer, Autumn. Native. In a few widely-removed stations in different Hundreds: Macclesfield and Broxton wanting.

2. Baguley Moor; Once plentiful at Bartington Heath (*W. Wilson*), *Francis.* Still (1874) found in an old pond on the site of Baguley Moor; Also in a boggy pond near Mere; *Sidebotham.*
3. The exact Oakmere locality is by a sheet of water called "The Fish Pool," half a mile from Oakmere Mere, where it grows in patches several yards in diameter, and when Charles Bailey and I found it in 1868 we could have loaded

- a cart with it; *Holland*. A fresh specimen from Mr. Holland, got at Oakmere: others distributed through the Exchange Club from the same station by Mr. C. Bailey.
4. The margin of a pond at the S.E. corner of Oxtou Heath, above Noctorum; (*Webb* and *Fisher*); *Proc. Liv. L. and P. Soc.* xv. (1861), p. 13. I have not been able to find it at Oxtou lately; *Webb*.
 6. Beam Heath, Nantwich; (*J. E. Bowman*), *Francis*.
 7. Congleton Moss; *Lys. M. Brit.*

EQUISETACEÆ.

EQUISETUM, *Linn.***E. arvense, Lam.***Field Horsetail.*

Road-, ditch-, and brook-sides; poor places in cultivated fields. *P. Fr.* Spring. Native. Generally distributed. Personal records in 2, 3, 4, 6, 7; second-hand records in 1, 2, 3, 4, 5, 6, 7.

E. maximum, Linn.*Great Horsetail.*

The borders of swampy woods, in damp wooded cloughs, and deep and shaded hedge- and ditch-banks, &c. *P. Fr.* Spring. Native. Thinly but evenly diffused throughout.

1. Woods in Reddish Vale, abundant; *Buxt. G.* Marple Wood; *Gr. Flo.* Fine and plentiful in Millbrook Great Wood; *Baker*. Woods in the Goyt valley from Furness Vale to above Strines; *Webb*. Near Cheadle; The osier beds, Gatley Carrs; Near the turnpike road from Disley to Whaley Bridge.
2. In nearly all the swampy woods about Manchester, *Buxt. G.* Bowdon; *Hunt. sp.*; Not very common: In a dingle leading down to Waterless Brook from near the Manchester road about half a mile from the Smoker Inn, Tabley; Fine in a boggy wood a little back from Rostherne Mere to the S.E.; Swampy ground, Becket's Wood, Aston.
4. Ditches by the foot-road between Seacombe and Poulton; *Hall, Flo.* In moist places near Gilbrook; *Ib.* Clay-banks, Rock Ferry; (*Skellon*); *Dick. Flo.* In a swampy plantation of decaying trees near the footpath between Noctorum and Woodchurch; *Webb*. Ditch-side, &c., in a field near Newton towards Great Meols; *Brown*. Behind the butts, Blacon Point shooting-range.
5. By the stream and in the ditches between the South Lodge of Aldersey Hall and the hamlet of Chowley; *Webb*. [Edge Lower Wood; Duckington Dingle, plentiful; *A. H. Wolley Dod.*]
6. Borders of wood on S.E. side of Marbury Big Mere; *Brown*. Seen twice in the Audlem neighbourhood; *Webb*. Rather local but still not an uncommon plant.

E. sylvaticum, Linn.*Wood Horsetail.*

Moist woods and wooded cloughs, shaded hedge- and ditch-banks, by the overgrown borders of streams; on hedge-banks and occasionally in still more exposed situations. *P. Fr.* early Summer. Native. Thinly diffused (probably) throughout.

1. Woods near Staley Hall, and many other places; (*Mr. Bradbury*), *B. G.* Woods in Marple and Reddish Vales, common; *Buxf. G.* Common in both dales near Staley-bridge, growing even on hedgebanks and by roadsides; (*Baker*). Not uncommon about Disley; and in the lower ground, at Bredbury Green; Bosley Lane between Otterspool Bridge and Dan Bank; About Pott Shrigley, &c.; *Webb.* Marshes near the River Goyt; *Astley List.* Edges of Lindow Common, abundant even in some cornfields on the Heath edge; By the Huddersfield road near Woodhead.
2. Near Cotterill Wood; *Hunt, sp.* Rather local: A hedge on Black Hill Farm, Bexton, near Knutsford; In Salters Lane on the edge of Tatton Park, near Ashley Brook.
3. Abundant in the field on the Manley side of Moors Brook; *Brown.* Between Clay Lane Farm and Booth's smithy, Little Budworth.
4. Seacombe; (*Watson*), *Hall, Flo.* (It grew on the river-bank: now (1867) probably destroyed; *Watson.*) Bromborough; (*Fisher*), *Flo. Liv.* Raby; (*Field Club*), *Ib.* The banks of the stream that courses the south of Hooton Park, between the railway and the river; *Brown, sp.*
7. The north road between Shrigley's smithy and the railway, about half-way between Mow Cop and Congleton stations; *Webb.* In Cheadle Lane, Lower Peover; Lane near Blackden Heath; Plentiful ascending Congleton Edge.

E. palustre, Linn.*Marsh Horsetail.*

In pits, trenches, shallow stagnant ponds, marshes in heaths, by their sides, or in the water to some extent. *P. Fr.* Summer. Native. Generally distributed. Personal records in 2, 7; second-hand records in 1, 2, 4, 5, 6.

Var. polystachium, Auct.

2. With the type at Seaman's Moss Pits: fine and characteristic, July 1859; *Hunt, sp.*
4. I have gathered this between Hoylake and the Hill Houses; *Webb.*

Var. nudum, Newm.

2. One or two spikes mixed with the type at Seaman's Moss Pits; *Hunt, sp.*
4. Wirral (*T. Sansom*); *Dick. Flo.*

E. limosum, Linn.*Smooth Horsetail.*

In ponds, old pits, by canals, in wet ditches, &c. *P. Fr.* Summer. Native. Generally distributed. Personal records in 2, 7; second-hand records in 1, 2, 4, 5, 6.

E. hyemale, Linn.*Rough Horsetail.*

In wet woods. *P. Fr.* late Summer. Native. Rare and local.
Chiefly shore.

1. Near Arden Hall in a wood close to the river; (*Mr. Bradbury*),
B. G.
3. Lally's Wood near Over; (*W. Wilson*), *Frances* and *Phyt.* i.
p. 481.
4. Frequent on the Dee shore near Gayton; Parkgate and
Thurstaston; *Dick. Flo.* I only know of it in one place
on the Dee shore, namely, at the north end of "The Scrub,"
about half-way between Gayton Cottage and the lanes up
to Heswell; it is there in but small quantity, growing
with *Thalictrum minus*: perhaps the *Dick. Flo.* record should
read "on the shore near Gayton between Parkgate and
Thurstaston," for I have never heard of it being found in
quantity: the river-banks are, however, much altered of
late years; *Webb*. I got a specimen from near Gayton on
the shore-line, 1867.

E. variegatum, Schleich.*Variegated Horsetail.*

The coast sandhill range; in the drift sand with *Ammophila*; in the
valleys and the flats with the *Salices* and *Burnet Rose*; and in
moist places with the *Junci* and smaller vegetation. *P. Fr.* late
Summer. Native. Confined in fair quantity to the north and west
coasts.

Var. arenarium (E. arenarium, Newm.).

4. Sandhills on the coast between Hoylake and the Rock Fort;
(*Watson*), *Francis*, also *Hall, Flo., Newman, &c.* Plentiful
in a largish dry pool-like depression in the sandhills, just
opposite where the road through Wallasey ends on the
coast; Also just north of Hoylake on the sandhills, and
about $1\frac{1}{2}$ miles north of Parkgate.

CHARACEÆ.

NITELLA, Ag.**N. flexilis, Ag.**

5. Field-pit about a mile S.W. of Christleton.

N. syncarpa, Chev.

3. Ditch at the N.W. corner of Hatchmere.

[*Var. opaca, Kütz.*

2. Pit between Mobberley and Ashley; (*C. Bailey*), *R. C. Rep.*
1881-82, p. 237.]

N. translucens, Ag.*Translucent Chara.*

1. At Poynton, near Stockport; *L. Grindon*.
2. Baguley Moor; (*W. Wilson*), *Babington* in *Trans. Edin. Bot.*
Soc. iv. (1853), p. 34.
4. Bebbington; (*Skellon*), *Flo. Liv.*

[TOLYPELLA, A. Br.

T. glomerata, Leonh.

4. Sand-pools, New Brighton; (Searle), *R. C. Rep.* 1884-86, p. 114.]

CHARA, Linn.

C. foetida, A. Br.

Common Chara.

2. Peat-cutting, Hale Moss, June 1862; *Hunt, sp.* Exactly my *foetida* from Fleet Pond.
4. "Frequent;" *Flo. Liv.* The watercourse, &c., at Blacon Point.
5. In a pit near Bickley Wood; *Brown, sp.* Plemstall, S.E.

[**C. contraria**, A. Br.

4. New Brighton; *Searle, R. C. Rep.* 1884-86, p. 114.]

C. hispida, Linn.

Hispid Chara.

2. Stream by Rostherne Mere, Sept. 1858; *Hunt, sp.* In the shallow pits at Marston Tilery.
3. Below Weaverham, in a pool by the river-side.
4. Leasowe; (*J. Shepherd*), *Hall, Flo.* Bidston; (*Skellon*), *Flo. Liv.*
5. [Near Broxton Station; Duckington; *A. H. Wolley Dod.*]

C. fragilis, Desv.

Fragile Chara.

2. Stream by Rostherne Mere, Sept. 1858; *Hunt, sp.* Quite different from another *Chara* with same station and date. In this the secondary branches are not branched again. The stems are much smoother. (It is not unlike the Octagon Pond and the Fleet Pond *fragilis*.) Field-pit between Peek Mill and Dunham-on-the-Hill.
4. About Woodside (Birkenhead); *Hall, Flo.* Not unfrequent in Wirral; *Dick. Flo.*
5. [Near Grafton Hall; *A. H. Wolley Dod.*]

A LIST OF PLANTS GROWING WITHIN THE ONE- AND FOUR-MILE RADII OF TABLEY.

COMPILED FROM LORD DE TABLEY'S MS., AND ARRANGED
ACCORDING TO THE "LONDON CATALOGUE OF BRITISH
PLANTS," SEVENTH EDITION.¹

- | | |
|------------------------------------|----------------------------------|
| Anemone nemorosa, Linn. | Erysimum cheiranthoides, Linn. |
| Ranunculus circinnatus, Sibth. | Cardamine amara, Linn. |
| R. fluitans, Linn., var. Bachii | C. pratensis, Linn. |
| (Wirtg.) (4). | C. hirsuta, Linn. |
| R. peltatus, Fries. | C. sylvatica, Link. |
| R. diversifolius, Gilib. | Barbarea vulgaris, Brown. |
| R. trichophyllus, Chaix. (4). | Nasturtium officinale, Brown. |
| R. Lenormandi, F. Schultz (4).! | N. terrestre, Brown. |
| R. hederaceus, Linn. | Draba verna, Linn. |
| R. sceleratus, Linn. | Teesdalia nudicaulis, Brown (4). |
| R. Flammula, Linn. | Capsella Bursa-pastoris, |
| R. Lingua, Linn. (4). | Moench. |
| R. auricomus, Linn. | Lepidium campestre, Brown. |
| R. acris, Linn. | L. Smithii, Hook. (4). |
| R. repens, Linn. | Viola palustris, Linn. |
| R. bulbosus, Linn. | V. Riviniana, Reich. |
| R. Ficaria, Linn. | V. Reichenbachiana, Boreau (4). |
| Caltha palustris, Linn. | V. tricolor, Linn. |
| Berberis vulgaris, Linn. (4). | V. arvensis, Murr. |
| Nymphæa alba, Linn. | Drosera rotundifolia, Linn. (4). |
| Nuphar luteum, Sm. | Polygala vulgaris, Linn. (4). |
| Papaver dubium, Linn. | P. depressa, Wend. |
| Chelidonium majus, Linn. | Lychnis vespertina, Sibth. |
| Corydalis claviculata, DC. | L. diurna, Sibth. |
| Fumaria pallidiflora, Jord., var., | L. Flos-cuculi, Linn. |
| Boræi. | Lychnis Githago, Lamk. |
| F. confusa, Jord. | Cerastium semidecandrum, |
| Raphanus Raphanistrum, Linn. | Linn. (4). |
| Sinapis arvensis, Linn. | C. glomeratum, Thuill. |
| Brassica polymorpha, Syme. | C. triviale, Link. |
| Sisymbrium officinale, Scop. | Stellaria media, With. |
| S. Alliaria, Scop. | S. Holostea, Linn. |

¹ Species found only outside the one-mile radius are indicated by the figure (4) placed after their names.

- Stellaria graminea*, Linn.
S. uliginosa, Murr.
Sagina apetala, Linn.
S. ciliata, Fries.
S. procumbens, Linn.
S. nodosa, Meyer (4).
Spergula arvensis, Linn.
Spergularia rubra, Fenzl.
S. neglecta, Syme.
Scleranthus annuus, Linn. (4).
Montia fontana, Linn.
Elatine hexandra, DC. (4).
Hypericum perforatum, Linn.
H. dubium, Leers.
H. tetrapterum, Fries.
H. humifusum, Linn.
H. pulchrum, Linn.
H. elodes, Linn. (4).
Malva moschata, Linn.
M. sylvestris, Linn.
M. rotundifolia, Linn. (4).
Tilia parvifolia, Ehrh.
Radiola Millegrana, Sm. (4).
Linum catharticum, Linn.
Geranium molle, Linn.
G. pusillum, Linn. (4).
G. dissectum, Linn.
G. Robertianum, Linn.
Erodium cicutarium, L'Hérit.
Oxalis Acetosella, Linn.
Ilex Aquifolium, Linn.
Rhamnus Frangula, Linn.
Acer Pseudo-platanus, Linn.
Ulex europæus, Linn.
U. Gallii, Planch. (4).
Genista tinctoria, Linn.
Sarothamnus scoparius, Koch.
Ononis arvensis, Fries.
Medicago lupulina, Linn.
M. maculata, Sibth. (4).
Trifolium pratense, Linn.
T. medium, Linn.
T. hybridum, Linn.
T. repens, Linn.
T. procumbens, Linn.
T. minus, Relhan.
T. filiforme, Linn.
Lotus corniculatus, Linn.
L. major, Scop.
Ornithopus perpusillus, Linn.
Vicia hirsuta, Koch.
- Vicia Cracca*, Linn.
V. sepium, Linn.
V. angustifolia, Roth.
Lathyrus pratensis, Linn.
Orobus tuberosus, Linn.
Prunus spinosa, Linn.
P. insititia, Linn.
P. Avium, Linn.
Spiræa salicifolia, Linn.
S. Ulmaria, Linn.
Agrimonia Eupatoria, Linn.
Sanguisorba officinalis, Linn. (4).
Alchemilla arvensis, Scop.
A. vulgaris, Linn.
Potentilla Fragariastrum, Ehrh.
P. Tormentilla, Neck.
P. procumbens, Sibth. (4).
P. reptans, Linn.
P. Anserina, Linn.
Comarum palustre, Linn.
Fragaria vesca, Linn.
Rubus Idæus, Linn.
R. suberectus, Anders.
R. plicatus, W. & N.
R. Selmeri, Lindeb.
R. Lindleianus, Lees.
R. rhamnifolius, W. & N.
R. rusticanus, Merc.
R. vestitus, Weihe.
R. calvatus, Blox. (4).
R. ramosus, Blox. (4).
R. pyramidalis, Kalt. ?
R. derasus, Müll.
R. Warrenii, Blox.
R. amplificatus, Lees.
R. umbrosus, Arrh.
R. mucronatus, Blox.
R. leucostachys, Schleich.
R. Borreri, Bell-Salt.
R. rosaceus, Weihe.
R. echinatus, Lindl.
R. Reuteri, Merc.
R. Radula, Weihe.
R. Koehleri, Weihe.
R. infestus, Weihe.
R. pallidus, Weihe.
R. diversifolius, Ldl.
R. Balfourianus, Blox.
R. cæsius, Linn.
R. concinnus, Warren.
R. conjungens, Bab.

Geum urbanum, Linn.
G. intermedium, Ehrh. (4).
G. rivale, Linn. (4).
Rosa mollissima, Willd.
R. tomentosa, Sm.
R. tomentosa, var. *subglobosa*,
 Baker (4).
R. tomentosa, var. *sylvestris*,
 Woods (4).
R. canina, Linn.
R. canina, var. *arvensis*, Baker.
R. canina, var. *tomentilla*, Baker.
R. canina, var. *verticillacantha*,
 Baker (4).
R. canina, var. *decipiens*,
 Dumort.
R. canina, var. *subcristata*,
 Baker.
R. canina, var. *Watsoni*, Baker.
R. arvensis, Huds.
Pyrus Aria, Hook.
Crataegus Oxyacantha, Linn.
P. Aucuparia, Gaertn.
P. Malus, Linn.
Lythrum Salicaria, Linn.
Peplis Portula, Linn.
Epilobium angustifolium, Linn.
E. hirsutum, Linn.
E. montanum, Linn.
E. roseum, Schreb.
E. tetragonum, Linn. (4).
E. obscurum, Schreb.
E. palustre, Linn.
Circaea lutetiana, Linn.
Myriophyllum spicatum, Linn.
M. alternifolium, DC.
Callitriche stagnalis, Scop.
C. hamulata, Kütz.
C. autumnalis, Linn. (4).
Bryonia dioica, Linn. (4).
Ribes Grossularia, Linn.
R. rubrum, Linn.
R. nigrum, Linn.
Sempervivum tectorum, Linn.
Saxifraga granulata, Linn.
Chrysosplenium oppositifolium,
 Linn.
Parnassia palustris, Linn. (4).
Hydrocotyle vulgaris, Linn.
Sanicula europaea, Linn.
Cicuta virosa, Linn.

Helosciadium nodiflorum, Koch.
H. inundatum, Koch (4).
Ægopodium Podagraria, Linn.
Bunium flexuosum, With.
Pimpinella Saxifraga, Linn. (4).
P. magna, Linn.
Sium angustifolium, Linn. (4).
Oenanthe fistulosa, Linn.
Œ. Phellandrium, Lam.
Æthusa Cynapium, Linn. (4).
Angelica sylvestris, Linn.
Heracleum Sphondylium, Linn.
Torilis Anthriscus, Gaertn.
Chærophyllum Anthriscus, Lam.
C. sylvestre, Linn.
C. temulum, Linn.
Hedera Helix, Linn.
Cornus sanguinea, Linn.
Adoxa Moschatellina, Linn.
Sambucus nigra, Linn.
Viburnum Opulus, Linn.
Lonicera Periclymenum, Linn.
Galium saxatile, Linn.
G. palustre, Linn.
G. uliginosum, Linn.
G. Aparine, Linn.
Asperula odorata, Linn.
Sherardia arvensis, Linn. (4).
Valeriana dioica, Linn. (4).
V. officinalis, Linn., var. *sambu-*
cifolia, Mikan.
Scabiosa succisa, Linn.
S. arvensis, Linn.
Carduus crispus, Linn.
C. lanceolatus, Linn.
C. palustris, Linn.
C. arvensis, Curt.
Arctium intermedium, Lange.
Serratula tinctoria, Linn. (4).
Centaurea nigra, Linn.
C. Cyanus, Linn.
Chrysanthemum segetum, Linn.
C. Leucanthemum, Linn.
Matricaria inodora, Linn.
M. Chamomilla, Linn.
Anthemis Cotula, Linn. (4).
A. arvensis, Linn.
Achillea Millefolium, Linn.
A. Ptarmica, Linn.
Artemisia vulgaris, Linn. (4).
Filago minima, Fries. (4).

- Gnaphalium uliginosum*, Linn.
G. sylvaticum, Linn.
Senecio vulgaris, Linn.
S. sylvaticus, Linn.
S. erucifolius, Linn.
S. Jacobaea, Linn.
S. aquaticus, Huds.
Bidens cernua, Linn.
B. tripartita, Linn.
Inula dysenterica, Linn.
Bellis perennis, Linn.
Solidago Virga-aurea, Linn.
Tussilago Farfara, Linn.
Petasites vulgaris, Desf.
Eupatorium cannabinum, Linn.
Cichorium Intybus, Linn.
Lapsana communis, Linn.
Hypochaeris radicata, Linn.
Leontodon hirtus, Linn.
L. hispidus, Linn.
L. autumnalis, Linn.
Tragopogon pratensis, Fries. (+).
Taraxacum dens-leonis, Desf.
Lactua muralis, Fres.
Sonchus oleraceus, Linn.
S. asper, Hoffm.
S. arvensis, Linn.
Crepis setosa, Hall. fil.
C. virens, Linn.
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H. vulgatum, Fries.
H. umbellatum, Linn.
H. boreale, Fries.
Jasione montana, Linn.
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C. rapunculoides, Linn.
C. rotundifolia, Linn.
C. Rapunculus, Linn.
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V. Myrtillus, Linn.
Andromeda polifolia, Linn. (4).
Erica Tetralix, Linn.
E. cinerea, Linn.
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S. nodosa, Linn.
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L. vulgaris, Mill.
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S. ambigua, Sm.
S. sylvatica, Linn.
S. arvensis, Linn.
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G. Tetrahit, Linn.
Lamium incisum, Willd.
L. purpureum, Linn.
L. Galeobdolon, Crantz (4).
Ajuga reptans, Linn.
Teucrium Scorodonia, Linn.
Echium vulgare, Linn. (4).
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- Myosotis sylvatica*, Hoffm.
M. arvensis, Lamk.
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U. minor, Linn.
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R. sanguineus, Koch.
R. maritimus, Linn.
R. obtusifolius, Linn.
R. pratensis, M. & K.
R. crispus, Linn.
R. Hydrolapathum, Huds. (4).
R. Acetosa, Linn.
R. Acetosella, Linn.
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P. aviculare, Linn.
P. aviculare, var. *arenastrum*, (Bor.) (4).
P. aviculare, var. *rurivagum*, (Jord.) (4).
P. Hydropiper, Linn.
P. minus, Huds. (4).
P. Persicaria, Linn.
P. lapathifolium, Linn.
P. amphibium, Linn.
P. Bistorta, Linn.
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S. simplex, Huds.
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O. incarnata, Linn. (4).
O. maculata, Linn.
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Narcissus Pseudo-narcissus, Linn.
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- Scilla nutans*, Sm.
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E. angustifolium, Roth.
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C. pulicaris, Linn.
C. disticha, Huds. (4).
C. paniculata, Linn.
C. vulpina, Linn.
C. stellulata, Good.
C. remota, Linn.
C. elongata, Linn. (4).
C. curta, Good. (4).
C. ovalis, Good.
C. vulgaris, Fries.
C. glauca, Scop.
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C. pilulifera, Linn. (4).
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C. panicea, Linn.
C. pendula, Huds.
C. sylvatica, Huds.
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C. Oederi, Ehrh.
C. hirta, Linn.
C. Pseudo-cyperus, Linn.
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C. lanceolata, Roth. (4).
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A. flexuosa, Linn.
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A. præcox, Linn.
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H. lanatus, Linn.
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Molinia cærulea, Moench.
Melica uniflora, Retz.
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P. trivialis, Linn.
Briza media, Linn.
Cynosurus cristatus, Linn.
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F. ovina, Linn.
F. duriuscula, Sm.
F. pratensis, Huds.
F. pratensis, var. *liolicea*.
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B. asper, Murr.
B. sterilis, Linn.
B. secalinus, Linn. (4).

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| B. commutatus , Schrad. (4). | Scolopendrium vulgare , Sm. |
| B. mollis , Linn. | Aspidium angulare , Willd. |
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| T. repens , Pers. | Osmunda regalis , Linn. (4). |
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